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THEISM: THE WITNESS OF REASON AND NATURE TO AN ALL-WISE AND BENEFICENT CREATOR

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THEISM:

THE WITNESS OF REASON AND NATURE TO AN ALL-WISE AND BENEFICENT CREATOR.

BY THE

REV. JOHN TULLOCH, D.D.

PRINCIPAL, AND PRIMARIUS PROFESSOR OF THEOLOGY,
ST MARY'S COLLEGE, ST ANDREWS.

Ζητεῖν τὸν Κύριον, εἰ ἄρα γε ψηλαφήσειαν αὐτὸν καὶ εὕροιεν· ΚΑΙΤΟΙΓΕ ΟΥ ΜΑΚΡΑΝ ΑΠΟ ΕΝΟΣ ΕΚΑΣΤΟΥ ΗΜΩΝ ΥΠΑΡΧΟΝΤΑ.

—Acts of the Apostles, xvii. 27.

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TO

SIR DAVID BREWSTER,

K.H. D.C.L. F.R.S. V.P.R.S., EDINBURGH, MEMBER OF THE INSTITUTE OF FRANCE, AND PRINCIPAL OF ST LEONARD'S COLLEGE, ST ANDREWS.

MY DEAR SIR DAVID,

I DEDICATE this Volume to you with sincere pleasure. Through your kindness I was enabled, while engaged in its composition, to have beside me certain volumes which otherwise I would have had great difficulty in procuring in my retirement in the country. I am glad to have such an opportunity of acknowledging this favour, as well as of expressing my grateful sense of the hearty interest which you have always taken in my studies, and my conviction of the cordiality with which you are always ready to respond to any demands on your literary sympathy, and to lend your encouragement to studious aspiration.

I feel, moreover, that I can, with peculiar fitness, dedicate to you the attempt which is made in this Volume to trace some portion of the Divine meaning everywhere inscribed on Nature, and illustrated by the progress of Scientific Discovery. However imperfect this attempt may be, I am sure that it is one which will warmly engage your regard.

Allow me to express the hope that you may be long spared to adorn our ancient University, on which your name and distinguished labours in science and literature have already conferred so much lustre.

I have the honour to be,

MY DEAR SIR DAVID,

Yours faithfully,

JOHN TULLOCH.

ST MARY'S COLLEGE,
ST ANDREWS.

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PREFACE.

THE circumstances in which this Essay originated are probably familiar to many. It has been thought proper, however, briefly to state them here.

Mr Burnett, a merchant in Aberdeen, whose character appears to have been marked by a rare degree of Christian sensibility and benevolence, amongst other acts of liberality,* bequeathed certain sums, to be expended at intervals of forty years, in the shape of two Premiums, inviting to the discussion of the evidences of religious truth, and especially to the consideration and confirmation of the attributes of Divine Wisdom and Goodness. The exact terms

* Mr Webster, agent for the Burnett Trustees, informs me that Mr Burnett's Christian liberality extended itself to many important objects but too little attended to in his time;—for example, the care of pauper lunatics, and the religious instruction of poor persons in jail, for both of which objects he left benevolent provision.—The date of Mr Burnett's Deed of Bequest is 1785.

of the subject of inquiry, as given in Mr Burnett's own deed of bequest, will be found to head the Introduction which opens the present Essay.

On the previous occasion of competition, the first of the Premiums was awarded to the late Principal Brown of Aberdeen, and the second to the Rev. John Bird Sumner, Fellow of Eton College, and now Archbishop of Canterbury.

On this occasion, the First Premium of £1800 has been adjudged to the Rev. R. A. Thompson, M.A., Lincolnshire; and the second, of £600, to the present writer;—the judges having been Mr Isaac Taylor, Mr Henry Rogers, and the Rev. Baden Powell.

In passing my Essay through the press, I have submitted it to a careful and thorough revision. Although the subject had been long in my mind, it had, in the end, assumed form very hurriedly; and on my receiving the manuscript back, many parts appeared to me greatly capable of improvement. I have not hesitated, therefore, to correct freely, with the view of imparting to the argument greater consistency, and to the whole a better finish. In its general plan and principles, however, the Essay remains substantially the same. Of the truth of

these principles I feel, with the farther opportunity of reflection, only the more convinced, if I still continue to feel, as I truly do, that my representation of them is very imperfect.

In reference to much of the illustrative matter embraced in the Essay, I think it right to state here, that I make no pretensions to an independent investigation of the scientific details. My special studies, such as they are, have been devoted to quite different provinces of inquiry. I have gathered my illustrative materials, therefore, from the most available sources which occurred to me, writing in a retired country Manse, where the difficulty of procuring the requisite books for such a miscellaneous course of study can only be understood by those who have experienced it. These sources, in some cases, are certainly not so original as I could have desired; but I have conscientiously aimed, in all cases, to present the facts as accurately as I could ascertain them; and there is little, if anything, of what I have thus collected that will, I think, be found open to a charge of inadvertency or inaccuracy.

The spirit of fairness and comprehensiveness in which I have endeavoured to seize my subject throughout, will, I hope, commend itself to my readers. I have sought the truth simply; I have sought it

with respect and tolerance for the opinions of those from whom I differ, but have never shrunk, in deference to any names, from the assertion of my own convictions. I certainly did not undertake the subject from the first as a mere taskwork, but because I felt a true interest in it, and conceived that it was capable, in some respects, of a more argumentatively consistent treatment than it had hitherto received. How far I have accomplished this my aim must be left to the judgment of others.

I have further to express my acknowledgments to the kind friends who have given me their aid and advice in the correction of the press. I would fain have mentioned my obligations in this respect more particularly, had I been permitted.

It is my earnest prayer that the volume now submitted to the public may in some degree fulfil, under the Divine blessing, the benevolent purpose in which it originated. May it strengthen, in the hearts of those who read it, impressions of that Divine wisdom and love which are all around them, and ever near to them.

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ERRATA.

Page 79, lines 15, 16, delete marks of quotation.

... 91, line 15, *for* sway *read* sways.

... 120, line 5, *for* induce *read* produce.

... 127, begin quotation with "only finds," 7th line from bottom.

... 172, Note, *read* "In so far as we know, the term Morphology," &c. ; and *for* Burduch *read* Burdach.

... 307, line 8th from bottom, delete "not."

INTRODUCTION.

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INTRODUCTION.

"THE EVIDENCE THAT THERE IS A BEING, ALL-POWERFUL, WISE, AND GOOD, BY WHOM EVERYTHING EXISTS; AND PARTICULARLY TO OBVIATE DIFFICULTIES REGARDING THE WISDOM AND GOODNESS OF THE DEITY; AND THIS, IN THE FIRST PLACE, FROM CONSIDERATIONS INDEPENDENT OF WRITTEN REVELATION; AND, IN THE SECOND PLACE, FROM THE REVELATION OF THE LORD JESUS; AND, FROM THE WHOLE, TO POINT OUT THE INFERENCES MOST NECESSARY FOR, AND USEFUL TO, MANKIND."

SOME ambiguity seems to rest on the main subject here claiming the consideration of the Essayist. The words may be so interpreted as to give for the special subject of Essay the *polemical* treatment of the various objections that have been urged against the *wisdom* and *goodness* of the Deity. This, however, is not the interpretation which they were probably intended to bear. The special attention claimed to difficulties respecting the Divine wisdom and goodness was not meant, in all likelihood, to constitute these the chief topics of treatment, in contrast to the general subject announced

in the first clause; but simply to indicate that, inasmuch as these attributes have been more frequently the objects of sceptical assault, and are in themselves more obviously exposed to cavil, so they deserve a more particular proof, not only on positive grounds, but in direct reference to the objections which readily occur, and have been often brought against them. The truth is, that, in any attempt "to obviate" these difficulties, the main recourse must ever be to the vastly preponderating positive evidence in favour of the wisdom and goodness of the Deity; and just the more thorough and complete the presentation of this evidence, the less force will be felt in such difficulties, and the less trouble in dealing with them polemically.

In any point of view, therefore, we consider ourselves justified in regarding the main and proper subject of Essay as that announced in the first clause—viz., the "Evidence that there is a Being, all-powerful, wise, and good, by whom everything exists." And to this subject, accordingly, the bulk of the present treatise is devoted.

The science of Natural Theology has especially suffered from the narrow and one-sided spirit in which it has been cultivated. Separate inquirers have generally given themselves to some favourite branch of evidence, which they have not been content merely to explore by itself, but which they have aimed to exalt over other branches. The successive labours of natural theologians appear in this way to present the spectacle rather of inconsistent structures, displacing or overlying one another, than of parts fitting harmoniously together into one great scheme of argument. The still standing dispute between the *a posteriori* and *a priori*

classes of thinkers, testifies strongly to this discordance. While some profound and earnest men have sought to raise the whole superstructure of natural theology upon an *a priori* datum, others, equally earnest, though with less speculative power, have at once put aside all such attempts as useless, and even impugned them with a jealous restrictiveness.

Zeal on the one side has provoked contempt on the other; and here, as in other cases, the abstract reasoner and the popular expositor have seemed to stand as opponents, rather than as helpmates in the same cause.*

The result of this has been not a little confusion and uncertainty as to the principles of the science on the one hand, and its comprehensiveness on the other. With a general acknowledgment of the convincing mass of evidence on which it is based, the clear logical coherence and relative bearing of that evidence are still very indistinctly apprehended. The *problem* of natural theology—what it really is? what principles it involves? and the distinctive character and force of these principles?—it cannot be said that there exists anything like harmony of opinion on these questions. Great as was the service rendered to the science by the varied interest and argumentative skill of the Bridgewater Treatises, these questions lay beyond the formal range of any of them; and, with all the light which they cast on its diversified applications, they contributed but little to the

* This conflict among natural theologians was already indicated by Kant in his great work, in which he submits all the separate modes of theistic argument to a keenly scientific sifting. And it is impossible that any can be familiar with even our own British literature on the subject, without being made aware of the existence of such a conflict.

determination, the scientific analysis and co-ordination of its fundamental doctrine.

But so far as the interests of the science are concerned in our day, this is undoubtedly the special task required of the natural theologian. It is in the region of First Principles, above all, that an earnest and sifting discussion is now taking place. There is an evident striving to grasp in a clearer solution, to hold in a more thorough unity and comprehensiveness than have been hitherto attained, the elements of our science. The spirit of eclecticism which has largely penetrated philosophy in general, is seeking, in this department of it, with special eagerness, a common centre and pervading interest. We have ourselves, at least, strongly felt the necessity for a treatment of the theistic problem at once more penetrating and synthetic, and have accordingly aimed at such a treatment of it in the present essay.

We apprehend the theistic evidence, as far as possible, under one plan or scheme, which may be generally called "Inductive." Inasmuch, however, as this plan of evidence, in its very conception, rests upon certain definite principles of philosophical belief, we consider it necessary, in the first instance, to lay down and verify these principles. We have felt that, in the present state of speculative discussion, we could not for a moment take these principles for granted, seeing that the two most living and active schools of philosophical unbelief proceed upon the express negation of them, and that in them really lies the gist of the theistic problem. It is our aim, accordingly, not merely to state these principles, but to establish them.

Having laid down a satisfactory basis of principles, we proceed, in the second section of the essay, to unfold, in something like organic relation and coherence, the array of inductive or *a posteriori* evidence for the Divine power, wisdom, and goodness presented by the vastly diversified phenomena of matter and of mind. This obviously is a boundless field, which no range of inquiry can exhaust, and which, even were it possible, it would be needless, for the end in view, to try to exhaust. Our object is simply to unfold the distinguishing and essential features of this ever-accumulating mass of evidence, and to present them, as far as we can, in an order of progression, in which they may be seen to bear with expansive force upon the vindication and illustration of the Divine character. We advance from the more general and simple phenomena of nature, through the more complex, up to the highest and most subtle combinations to be found in man's intellectual and emotive constitution; and in the course of this procession it is our chief aim—that under the guidance of which we advance—to seize and set forth those ultimate typical realities which all along meet us, and which, while in their mystery they point directly back to a Divine Source, serve at the same time prominently to characterise this Source. It is only some guiding aim of this sort, however imperfectly it may be carried out, that could bring within any intelligible limits, or give any living interest to, such a survey.

Whereas the section on "Principles" will, it is hoped, serve to verify on the deepest grounds the fundamental theistic conception of an intelligent First Cause, — this second illustrative section will serve to clothe the bare

abstract idea of such a Cause in the attributes of power, wisdom, and goodness reflected from the great leading forms or facts of nature.

Having completed our inductive survey, we return, in a third section, which we have entitled "Moral Intuitive Evidence," to the region of First Principles, and in this region endeavour further to establish certain elements of the theistic conception—viz., Personality, Righteousness, and Infinity—without a special verification of which, every theistic argument must, according to our view, utterly fail of its purpose. Under this section of evidence we are led to treat of the common *a priori* argument, and to assign to it its distinctive value in the general plan of theistic speculation.

It may be inferred from what we have said that, while our second section of Evidence corresponds to the common treatment of the *a posteriori* argument, as exemplified in Paley and the Bridgewater Treatises, both our first and third sections deal simply with the elements of the *a priori* argument. And if any choose to apply the term *a priori* to the discussions contained in these sections, it matters very little. They really, however, embrace a course of reasoning to which that term, in the restrictive sense in which it has been applied to definite arguments for the existence of the Deity, has no proper application.*

Upon any definite scheme of *a priori* argumentation, involving a process of mere abstract deduction from some

* The term *a priori* is not, in fact, applied with any consistency even to these arguments, some of the different forms of the Cartesian argument, and that of Clarke especially, resting on an express datum of experience; whereas it is the pretension of a pure *a priori* argument to demonstrate the Divine existence from the formal conceptions of the human mind.

single element of thought, or even of experience, it will be seen in the sequel that we do not place any reliance. We are as little inclined as those who have most zealously opposed this sort of argumentation, to ascribe a convincing force to it. So far we are at one with the general spirit of natural theological inquiry which prevails in this country, as represented by such writers as Brown, Brougham, and Chalmers. But, then, we consider that these writers, while rightly repudiating the conclusiveness of *a priori* reasoning in reference to our subject, have failed to set forth, and even to apprehend with clearness and comprehensiveness, the subjective conditions, or, in our previous language, principles, which their *a posteriori* argument at once presupposes as its essential basis, and demands in order to its complete and effective validity. Now, it is simply the object of the first and third section of this essay to determine and verify these conditions or principles, which, as thus forming both the only adequate foundation, and the culminating force of the general evidence for the Divine existence and character, seem eminently in the present day to claim the attention of the natural theologian. The chain of induction goes up in unnumbered links; but this chain rests at both points on principles of intuitive belief, which must be thoroughly understood and substantiated.

While, therefore, our third section receives a distinctive name, and might, as a branch of theistic evidence, to some extent stand by itself, we would yet have it to be viewed in strict connection with the preceding sections; in which connection alone our general Evidence will be seen in its fully conclusive bearing.

A fourth and concluding section is devoted, according to our view of the terms of the subject, to a particular examination of the "difficulties regarding the wisdom and goodness of the Deity," as they derive any explanation from the light of Nature, or finally from the disclosures of "written Revelation."

Throughout the essay we have kept in view very prominently the anti-theistic tendencies of our time, especially as manifested in the form of *Positivism*. This seemed to be demanded by the character of the essay, which, prescribed at intervals of forty years, was probably designed to meet the forms of speculative scepticism likely to arise at such intervals. In the history of thought, forty years is a wide period, during which great changes of opinion may be expected to occur. And it is at least certain that, since the date of the publication of the last essays on our subject, the questions between the Christian Theist and the speculative Sceptic, if, as they must ever be, essentially the same, have yet assumed very changed aspects. Materialistic Pantheism, in the shape of "Positive Philosophy," has especially assumed a dignity and pretension which in some respects invest it with a new character, and require a new and more comprehensive mode of treatment. Our essay throughout will be found to bear the impress of this conviction.*

* Miss Martineau's recent translation of Comte's great work, and Mr G. H. Lewes' popular exposition of Positivism (published as one of the volumes of Bohn's Scientific Library), give additional significance to the purpose that animates our essay.

SECTION I.

PRINCIPLES OF INDUCTIVE EVIDENCE

§ I.—CHAPTER I.

PRINCIPLES OF EVIDENCE.

The Theistic Evidence, in its common inductive form, derives its logical force from certain principles implied in its very conception. It is necessary, therefore, in entering upon our subject, to determine these principles, and the grounds on which they rest. The special necessity of such an initial explanation and verification of principles, is shown by the fact that it is in regard to them alone that there remains any dispute. The question between the Theist and the Anti-Theist—Pantheist or Atheist—necessarily always resolves itself into one of this fundamental character. It becomes a controversy, not as to the existence of certain phenomena in nature—whose existence is really indisputable on either side—but as to the true meaning or interpretation of these phenomena. And especially is this the present aspect of the question, amid the new stir which, from opposite quarters, has begun in philosophical inquiry. We cannot therefore save ourselves, even if we would, from taking up the speculative discussions which lie across the threshold of our subject,

and endeavouring to establish our position securely on the narrow platform of First Principles. In this way, besides, we shall exhibit, better than in any other, the condensed logical force of the Evidence, illustratively expanded in the succeeding section. The theistic argument may be syllogistically expressed as follows, in a form which appears to us at once simple and free from ambiguity—viz., First or major premiss,

Order universally proves Mind.

Second, or minor premiss,

The works of Nature discover Order.

Conclusion,

*The works of Nature prove Mind.**

It is of great importance to keep clear in the outset of all ambiguous or misleading terms. And this conviction has led us to reject from our syllogism such common expressions as not only "cause" and "effect," but also

* Dr Reid long ago expressed the theistic argument in a syllogistic form, as follows: "*First*, That design and intelligence in the cause may, with certainty, be inferred from marks or signs of it in the effect. This is the *major* proposition of the argument. The *second*, which we call the minor proposition, is, That there are in fact the clearest marks of design and wisdom in the works of nature; and the *conclusion* is, That the works of nature are the effects of a wise and intelligent Cause. One must either assent to the conclusion, or deny one or other of the premises."

To this statement of the theistic syllogism, which, to say the least, is not remarkable for precision, considerable exception has been taken by succeeding writers. Dr Crombie, in his work on Natural Theology, maintains that the syllogism of Reid is vicious in this respect, that in passing from the major to the minor proposition, he tacitly carries over to the "works of nature" the conclusion suggested by the term "effect;" while yet, according to Dr Crombie, this is the very thing to be proved—viz., That the world is an effect. He thus represents Reid's statement of the argument: "Marks of design in the effect prove design in the cause. The works of nature are an effect, and exhibit marks of design; *therefore* the works of nature prove design

"design." There will be abundant use in the sequel for this latter expression in all its full and appropriate significance, when we have established the great general doctrine on which it rests—viz., That Mind is everywhere the only valid explanation of Order—its necessary correlate.

It is this doctrine—the equivalent obviously of the major premiss of our syllogism—which appears to us to present, in its really valid and fundamental character, the theistic problem. Essentially, it is neither more nor less than the old doctrine of Final Causes; but, for the reason already stated, we prefer considering it in the mean time in a new and untechnical form of expression.

Upon this fundamental position rests the whole burden of the inductive theistic argument. If this position can be established—if the right of Intelligence to stand everywhere as the correlate of Order can be made good—the Pantheist or Positivist very well knows that, even

in the cause." Besides the invalid assumption which Dr Crombie maintains is here introduced into the minor premiss, he objects, and we think with perfect justice, to the mode in which the first proposition is stated, "marks of design in the effect" being simply equivalent to "design in the cause."

The more general form in which we have put the syllogism in the text, appears to us entirely to obviate these objections; and especially to liberate us from any such preliminary necessity as that of proving the world to be an "effect." By putting out of view this term, and dealing simply with the fact of order, we have already, according to the truth of our first proposition, Mind as its cause. It is not necessary that we show previously that the orderly fact or phenomenon is an "effect," for this simple reason, that in its very nature it is such. In virtue of its character—as manifesting order—it is already declared a product or effect. This of course may be held equally true on the syllogistic basis of Reid; and we do not therefore concur in this part of Dr Crombie's criticism. Only by avoiding the use of the term "effect," we obviate such an objection. Our mode of expression disencumbers the argument of an extraneous element of debate, and so far places the sceptical cavil of Hume simply beside the question.

according to his own favourite mode of viewing nature as a system of law or order, the theistic conclusion directly follows. The fact of a supremely Intelligent Cause then everywhere asserts itself. The discoveries of science, in all their rich variety, became only tributary witnesses to this fact. Here, accordingly, the whole contest of Theism centres, and finds its most vital struggle. And of this the opposite school of thinkers are sufficiently aware. They clearly feel that it is here alone that a consistent position of denial can be taken up. The right of Mind to be held everywhere as the correlate of Order, and so to stand at the head of nature, is stoutly, and even scornfully, impugned by them. That Mind is in man and animals the appropriate explanation of many facts of order, is of course not denied; but it is expressly denied that it has any claim to be regarded as the only true source, and final explanation, of all order.

We may seem to have put the theistic problem in a somewhat unfamiliar form. But, while confessedly not the form in which it has been usually discussed, it is nevertheless that in which, beyond all doubt, it most urgently presses itself upon our attention. Even in the writings of Hume it is this aspect of the question which suggests itself most powerfully, and which gives the main point to his famous sceptical reasoning—a fact which has not been sufficiently perceived. Interest has been concentrated upon his ingenious attempt to represent the world as a "singular effect," but without a clear insight into the deeper principle by which he was led to take up this ground, and which alone gives to it all its force. If we can establish Mind as the *universal* correlate of order,

it must be manifest that there is no room for such a position as that the world is a "singular effect." The only question is, Does the world discover order? That Hume was perfectly aware of this, and that the real and final question regarding Theism related to the rightful claims and dignity of Mind, is so abundantly plain in the course of his reasoning, that it seems strange that it has not hitherto attracted more special examination. Even Dr Chalmers—who plainly enough saw that the mode, adopted by Reid and Stewart, of settling the matter by at once declaring design to be an intuitive principle of belief, was not all that was demanded against such an opponent—does not seem to have penetrated to this essential element of the subtlety which he manfully encounters. So far triumphant in his vindication of the theistic inference, as resting on the same basis of experience as any other inference from design, he does not yet reach, and bring out fully, the ultimate rational truth on which alone that inference, in the end, must rest.

To employ his own illustration, "If we can infer the agency of design in a watchmaker, though we never saw a watch made, we can, on the very same ground, infer the agency of design on the part of a world-maker, though we never saw a world made." All that is requisite to constitute the inference valid in either case is not, as the sceptical objection implied, experience with the actual production of the special effects—with the making of a watch on the one hand, or the making of a world on the other—but only with the simple fact of adaptation on the one hand, and Mind as its explanation on the other. This general form of experience

is the sufficiently warrantable basis of inference in either case.* But it must be plain, we think, that the result of experience, generalise it as we may, can only be argumentatively valid when seen to be a truth of reason—in other words, when transformed into the position laid down in our first premiss, viz. that adaptation or order universally proves Mind. For otherwise we do not see how it would avail to say that the "watch," so far as our experience of its production is concerned, is in the very same category as the "world." The old objection would still recur, in this higher form, exactly the opposite of the position we have laid down —viz., that order (confessed in many cases to be the result of mind) cannot yet be validly maintained, in all cases, to flow only from Mind. No basis of experience simply can warrant such a conclusion. Admitting the effects to be similar, we are not thereby warranted in asserting that the explanation of the human effect is the only valid explanation of the universal effect. It can only be on grounds of *reason*—on the basis not simply of experience, but of the inherent laws of our rational constitution—that we can impregnably take up such a position against the Anti-Theist. This must, beyond doubt, come to be the final argumentative bearing of the question—which is thus really, when pushed back to its last analysis, one not so much regarding the world as a singular effect, as regarding Mind as a singular cause.

How this appears in the writings of Hume as the really

* This is virtually the import of Chalmers' amplified argument. See his *Natural Theology*, pp. 150-151.

vital element of the question, is abundantly clear from the following paragraphs :—*

"But can you think, Cleanthes, that your usual philosophy has been preserved in so wide a step as you have taken, when you compared to the universe houses, ships, furniture, machines, and, from their similarity in some circumstances, inferred a similarity in their causes? *Thought, design, intelligence, such as we discover in men and other animals, is no more than one of the springs and principles of the universe, as well as heat or cold, attraction or repulsion, and a hundred others which fall under daily observation.* It is an active cause by which *some particular parts of nature,* we find, produce alterations on other parts. But *can a conclusion, with any propriety, be transferred from parts to the whole?*"

"But, allowing that we were to take the *operations* of one part of nature upon another for the foundation of our judgment concerning the origin of the whole (which never can be admitted), yet why select so minute, so weak, so bounded a principle as the reason and design of animals is found to be upon this planet? *What peculiar privilege has this little agitation of the brain, which we call thought, that we must thus make it the model of the whole universe?*"

"Admirable conclusion! Stone, wood, brick, iron, brass, have not, at this time, in this minute globe of earth, an order or arrangement without human art and contrivance; therefore the universe could not originally attain its order and arrangement without something similar to human art. *But*

* *Dialogue concerning Natural Religion,* HUME'S *Works,* vol. ii. pp. 446, 448.

is a part of nature a rule for another part very wide of the former? Is it a rule for the whole? Is a very small part a rule for the UNIVERSE?"

The real subject of dispute, then, on the old battle-ground of Theism, which has descended to us, regards the valid claim of Mind to stand *universally* as the Interpretation of Order. And more eminently than ever, in the present day, is this the vital point at issue. The views thrown out with such an apparently heedless, yet far-reaching subtlety, by Hume, have at length been taken up in a strictly scientific form, and elaborated into a philosophical creed, which boasts numerous and able advocates. Positivism, indeed, if springing directly from the irreverent soil of French scientific culture, yet traces back its lineage to the Scottish sceptic, of whose keen and arrogant genius it is so fitting a representative.

It is true that, in this modern sceptical system, the theological bearing of the views advocated is not always prominently brought forward—sometimes rather simply passed by, as beyond the concern of science. This is especially the case with the writer who is, in this country, its ablest and most systematic expositor. But in other cases no opportunity is lost of bringing out this bearing in the most decided manner; and, even in the chief work of the writer in question, it is so clear and unmistakable that it is impossible not to perceive, under the show of courtesy, the deadly shafts levelled at the foundation of the theistic argument. This will be sufficiently apparent from the following quotation, which condenses the result of a train of argument,

the object of which is to prove that what Mr Mill calls the "Volitional Theory"*—meaning thereby the very truth which we have laid down in our first proposition—is incompetent to stand as the only (ultimate) explanation of phenomena in general. We present it, in the mean time, merely in order that the antagonistic position with which we have to deal may be seen in its full meaning and force.

"Though it were granted," he says,† "that every phenomenon has an efficient, and not merely a phenomenal cause, and that volition, in the case of the peculiar phenomena which are known to be produced by it, is that efficient cause, are we, therefore, to say with these writers, that since we know of no other efficient cause, and ought not to assume one without evidence, there *is* no other, and volition is the direct cause of all phenomena? A more outrageous stretch of inference could hardly be made. Because among

* Mill's transposition of the Theistic Principle into a "Volitional Theory," is just one of the many instances in which the real import of the principle has been obscured under a one-sided and wilfully perverted nomenclature. It is surely time that, in the search after truth, men should cease to be content to escape from the pressure of an antagonistic doctrine, by hiding its highest meaning under an easily degraded phraseology! There is a further misrepresentation conveyed by Mr Mill's language, which, although it will be afterwards fully cleared up, it may be well to notice here, as tending to involve our own position in some degree of doubt. He speaks of the writers, against whom he argues, maintaining volition to be the "*direct cause* of all phenomena"—a statement very readily suggesting a caricature of their true doctrine—which does not for a moment deny the fact of physical causes, in Mr Mill's sense of that term, but only that these causes, save as taking their rise in a RATIONAL Will, and forming an expression of such a Will, afford no satisfactory explanation of the phenomena. It is not by any means as their direct or immediate cause (in the sense of excluding physical causes — general laws), but only always as their First or Original Cause, that Mind is spoken of as the explanation of physical phenomena.

† MILL'S *Logic*, vol. i. p. 371.

the infinite variety of the phenomena of nature there is one —namely, a particular mode of action of certain nerves— which has for its cause, and, as we are now supposing, for its efficient cause, a state of our mind; and because this is the only efficient cause of which we are conscious, being the only one of which, in the nature of the case, we *can* be conscious, since it is the only one which exists within ourselves,—does this justify us in concluding that all other phenomena must have the same kind of efficient cause with that one eminently special, narrow, and peculiarly human or animal phenomenon?"

In endeavouring to verify the position which forms the argumentative basis of our Evidence, there are two special lines of proof demanded of us—the one relating directly to the position itself—that Order *universally* proves Mind, or, in other words, that Design is a principle pervading the universe; and the other relating to a doctrine which, as it appears to us, lies everywhere involved in the more special theological principle. This principle, in the form announced in our first proposition, undoubtedly implies a definite doctrine of causation. In asserting the principle of design, we clearly assert, at the same time, that Mind alone answers to our true, or at least ultimate, idea of cause. We pronounce causation, or at least our highest conception of it, to imply *efficiency*. But does it really do so? We find ourselves met on this general philosophical ground as to the true nature of causation, as well as on the ground of the special theological application which we make of the general truth. They who dispute the theistic interpretation of nature, no less dispute

the doctrine of efficient causation, and in fact base their opposition to the higher principle on this lower and wider ground.

In order, therefore, fully to sustain our position, we must make it good on this lower ground. According to our whole view, the one position is untenable apart from the other. The two doctrines of final causes and of efficient causation we regard as essentially related. They are not to us, indeed, separate doctrines, but only separate phases of the same fundamental necessity of our rational nature: the relation of the two is not that of dependency—the one upon the other—but of intricacy—the one in the other; for while the theological principle virtually asserts the philosophical, the latter, in its highest conception, already implicitly contains the former.

It is very true that many theistic thinkers, and eminently among ourselves Dr Chalmers,* have not recognised this interchangeable relation between the general doctrine of causation and the special theological doctrine. But a fact of this sort has no farther claim to our consideration, than to lead us to ponder more thoroughly the grounds of our own conviction; and the more this is done, the more, we feel confident, will the view set forth in the following pages approve itself as the only sound and comprehensive one.

* *Natural Theology*, vol. i. pp. 121-161.

§ I.—CHAPTER II.

DOCTRINE OF CAUSATION.

THERE have been few if any questions in Philosophy more thoroughly discussed than that of causation. Especially since the sceptical genius of Hume carried its pitiless search into the foundations of the prevailing philosophy of his day, and exposed its genuine logical consequences, has speculative discussion gathered round this point as a centre, and found unceasing life in it. It appears to us that at length the ground may be said to be pretty well cleared, if not for a settlement of the question, yet for a definite truce regarding it. For it has become clearly apparent that the combatants, on one side at least, contend, not so much in direct opposition to the view held on the other side, as for a further and higher view in addition. The two classes of thinkers are indeed fundamentally opposed, but they are not throughout opposed. For the one class only insists on carrying up the position of the other into a higher, and, as they think, more comprehensive Truth than the other will admit. The one feels impelled to look beyond the mere physical view, and to

find everywhere in Nature a further and more sacred MEANING than the other is content to accept.

It is no longer, for example, disputed by any school of philosophy, that all *we perceive* of the relation between physical phenomena is a relation of *succession.* "It is now universally admitted that we have no perception of the causal nexus in the material world." * The writings of Hume and of Brown, and again of Mill in our own day, have been so far successful in making this plain beyond doubt, and exposing, in its precise form, the bearing of the question between them and the opposite school of thinkers. We see events following events in regular succession. All that we really *see* and apprehend is the succession. "The impulse of one billiard ball is attended with motion in the second. This is the whole that appears to the outward senses." † But is this perception of sequence commensurate with our notion of causation? Is it what we specially mean when we express the relation of cause and effect? If the measure of our experience be the measure of our conception, why is it that we do not apply the one universally to the objects of the other? To take the often repeated illustration of the relation between day and night. This we apprehend as an invariable succession. Yet we never understand nor speak of day as the cause of night, or the reverse. It must be admitted, then, that our empirical apprehension is at least not commensurate with our causal judgment. And this is in fact admitted by Mr Mill in reference to this very relation, and the "very

* SIR W. HAMILTON'S *Discussions,* Appendix, p. 587.
† HUME'S *Works,* vol. ii. p. 74.

specious objection" which he acknowledges has been often founded upon it, against his view of the subject. "When we define," he says,* "the cause of anything to be 'the antecedent, which it invariably follows,' we do not use this phrase as exactly synonymous with 'the antecedent which it invariably *has* followed in our past experience.' Such a mode of conceiving causation would be liable to the objection very plausibly urged by Dr Reid — namely, that, according to this doctrine, night must be the cause of day, and day the cause of night; since these phenomena have invariably succeeded one another from the beginning of the world. But it is necessary to our using the word cause, that we should believe not only that the antecedent always *has* been followed by the consequent, but that, as long as the present constitution of things endures, it always *will* be so, and this would not be true of day and night."

The concession forced upon Mr Mill, and expressed in this passage is, we cannot help thinking, remarkable. It is here clearly admitted, that the measure of our observational experience is not the measure of the idea of causation, even as held by him. It is not the perception of uniform succession merely, but a certain belief regarding the succession, which specially determines it to be a relation of cause and effect. But what do the opponents of a mere sensational philosophy everywhere contend for, but just the admission of such an element of belief, as the determining element of the idea of causation? The belief, no doubt, is with them

* MILL'S *Logic*, vol. i. p. 350.

of a very different character, and arises in a very different manner from that represented by Mr Mill; but it is significant how, in the most earnest effort which has been made in our time to resolve the idea of causation into that of mere antecedence and consequence, there should be allowed to enter an element of belief which is confessedly not generated by our mere observation of sequence. The sequence, besides being invariable, or, in other words, uniformly observed, Mr Mill says must be unconditional; and day and night is not a sequence of this character. "We do not believe that night will be followed by day under all imaginable circumstances, but only that it will be so, *provided* the sun rises above the horizon." According to this view, before we can pronounce any two phenomena to be in the relation of cause and effect, we must not only have observed the fact of their invariable association, but we must know that, according to the "present constitution of things,"* they always will be associated. We must understand the conditions of

* There seems to be an inaccuracy and misapplication of language here, singular in a writer generally so clear-sighted and accurate as Mr Mill. For surely the regular rising of the sun above the horizon, or, in other words, the diurnal revolution of the earth, is, if anything can be said to be so, a part of "the present constitution of things." According to this "constitution," then, it may be said to be truly known that night will always be followed by day. The terms of this sequence, even on his own interpretation, are therefore unconditional, and yet we do not regard them as cause and effect.

We can, no doubt, conceive the sun *not* to rise above the horizon, compatibly with the "general laws of matter," a phrase by which Mr Mill makes his meaning more distinct and unequivocal. But, in the first place, the "general laws of matter," while they MAY be conceived by us apart from such a special result of their operation, can yet be only said to be really known to us in their varied actual results, apart from which they are simply abstractions; nonentities, on a mere physical view of things; and, in the second place, we can as easily conceive, it appears to us, the general laws of matter themselves

the sequence so thoroughly, as to comprehend whether they form a part of "the general laws of matter," before we can rightly pronounce the one term of the sequence to be the cause of the other.

But if it were not already apparent in the outset of Mr Mill's discussion, this conclusion were enough to show that the subject with which he concerns himself, under the name of causation, and that which is commonly meant under that name, and in our view is alone entitled to it, are quite different. While, under this name, he really speaks of the order which, according to the "general laws of matter," obtains among the phenomena of nature—the "invariable and unconditional" dependence which, in virtue of these laws, subsists among physical sequences—the intellectual common sense, by causation, does not mean to express anything of this sort. It does not concern itself with the special conditions under which phenomena emerge, so as to determine their invariable and unconditional antecedents (in Mr Mill's language, their causes); but on the emergence of any phenomenon, the appearance of any change, it simply says that it is *caused;* meaning by this, that the change does not originate in itself, but in something else. It says this wholly irrespective of the special sources or conditions

to cease, or be entirely changed. The unconditionalness, therefore, which he considers to attach to them, and which he believes a "distinction of first-rate importance for clearing up the notion of Cause," does not seem, even in their case, to be available to any further extent than in reference to the constant experience respecting day and night. The fact is, as shown in the text, that the constant succession of day and night is not regarded in the light of cause and effect, simply because it is not succession, but something else, and quite distinct, with which the mind, directly and initially, concerns itself in pronouncing this relation.

of the change; and says it equally, although it should never learn anything of these sources or conditions. It pronounces, in short, not what is the relation among observed phenomena, but only that all phenomena, whether lying within the sphere of our observation or not, are related. Springing from even a single basis of experience, this judgment goes forth without hesitation into the whole world of reality, and everywhere proclaims its validity; and it is this judgment which constitutes to the common sense the doctrine of causation.

It is of importance to understand what is the real difference which thus exists between sensationalists of the school of Hume and Mill, and those who contend for a deeper meaning in causation than they allow. Artfully shifting the question of causation into the domain of physical observation, they come, in fact, to treat of something quite special, which, under whatever protestations, they in the end assume to be the whole matter, so far as it has any intelligible relation to the human mind. Mr Mill, for example, while declaring that he is "in no way concerned" in the question of efficient causes, and that he simply passes it by, has no sooner laid down his own "law of causation," than he turns to contemplate in its light the doctrine of causation as commonly understood, and on the strength of his own principles to engage in an elaborate refutation of this doctrine. Now, this does not seem to us to be really the fairest way of dealing with a subject of so much importance. To profess to have in view simply the discussion of physical causes and effects

—as to the relation of which there is really no dispute—and yet to pass over from this to the truth of causation as a principle of human knowledge, can only tend to mislead the reader, and embroil still farther the metaphysical controversy which Mr Mill is desirous of avoiding. The Positivist must either abide in the domain of physical phenomena —where none deny that all which comes directly within the sphere of human knowledge is mere antecedence and consequence—or he must be prepared to take up the general fact of causation, as it reveals itself in the common intellectual consciousness, and show it to be coincident in import with the law of mere succession. It is on this ground of common belief that the question must be discussed. We have already so far seen what this belief signifies. Let us still more precisely fix its import.

When, on the appearance of any change, we instinctively pronounce it to have a cause, what do we really mean? Do we affirm merely that some other thing has gone before the observed phenomenon? Is priority the constitutive element of our intellectual judgment? Is it not rather something quite different? Is not our judgment characteristically to this effect—that some other thing has not only preceded but produced the change we contemplate? Nay, is it not this element of production that we peculiarly mean to express in the use of the term "cause"? Succession is no doubt also involved, but it is not the relation of succession with which the mind, in the supposed judgment, is directly and initially concerned, but rather the relation of power. That when we speak of cause and effect, we express merely

the relation of conjunction between phenomena of antecedence and consequence in any defined sense, is something of which no ingenuity of sophistry will ever be able to persuade the common mind. It matters not in the least degree that it can be so clearly proved that nothing intervenes between the simple facts observed, that all we see is the sequence of the phenomena. This is not in dispute. Only, the intellectual common sense insists on recognising a deeper relation among phenomena than mere sequence. It accepts the order of succession, which it is the special function of Science to trace everywhere to its most general expression; but it moreover says of this order, that it is throughout produced, or, in other words, that it is only explicable as involving a further element of power. That this is really the import of the intellectual judgment which we pronounce in speaking of cause and effect—to which the very words themselves testify in an unmistakable manner—is so clear, that it is now admitted by every school of philosophy which does not rest on a basis of materialism, and has even been conceded by writers of this school, however irresolvable on their principles.*

Causation, therefore, implies power. What we mean by a cause is something quite different from a mere antecedent, however we may define the conditions of its relation to the consequent. It is peculiarly an AGENT.

But in order to see this more fully, it will be necessary to consider whence we have the idea of power, which we have seen to constitute the main element of causation.

* See LEWES' *Biographical History of Philosophy*, vol. iv. p. 47, *seq.*

That this idea is not derived from without—that it does not come through any phase of sensational experience—is already clear in the fact admitted on all hands, that we only perceive succession—that we are only conversant, through the senses, with the two terms of a sequence. But if not from without, it must be from within; we must have the idea of power given us in our own mental experience. This we hold to be the fact; and recent psychological analysis has pretty sufficiently explained the more special origin of this prime intellectual element. It flows from the depths of our self-consciousness; or, more truly speaking, it is nothing else than the ideal projection of our self-consciousness. With the first dawn of mind we apprehend *ourselves* as distinct from the objective phenomena surrounding us; the Ego emerges, face to face, with the non-Ego. And in this springing forth of self, so far back in the mental history as to elude all trace, is primarily given the idea of power.

What is commonly called the Will, therefore, is, according to this view, the ultimate source or fountain of the notion of causation. We apprehend ourselves as agents, and in this apprehension we have already, in the fullest sense, the idea of cause. Had we not this apprehension, it seems impossible that we could have ever risen above sequence, as the obvious fact given us in outward observation. With this apprehension lying at the very root of our being, and constituting it essentially, it is equally impossible that we can hold by that fact as furnishing the exhaustive conception of the Universe. According to the radical and imperative character of our mental constitution, we *must* recognise a

deeper life than mere sequence, however grand and orderly, in the phenomena of nature; and this deeper life is just what we mean by a cause. Not sequency, therefore, but agency, or, in other words, efficiency, is the attribute commensurate with our notion of causation.

The question before us then really passes into the old one as to the origin of our knowledge. Let it only be admitted that our knowledge is the product of a spiritual as well as a material factor, and then it is quite beside the question to argue that because cause, according to our interpretation of it, is not given in external nature, the notion of it is not a valid and real portion of human knowledge; on the very contrary, it becomes, in such a case, only an obvious and expected conclusion that we should find more in outward phenomena than they, so to speak, contain. The subjective brings its element of knowledge as well as the objective; and it is not merely what we apprehend by the senses, but what, through the whole mental life awakened in us by the original contact of subject and object, spirit and matter, we intuitively know or believe to be the truth—that we must hold as the truth. The only available argument against this position—save on a basis of pure materialism—would be to dispute the reality of any such primitive mental experience as we have asserted—the fact of that consciousness of agency, which we have assumed as indisputable.

It is of great importance that the view which we have thus endeavoured to set forth should be comprehended in its precise import, with reference both to certain objections

which have been urged against it, and to the final conclusion to which it seems to us to lead. It will be observed that we trace the idea of causation, in its primitive origin, to our self-consciousness, our apprehension of ourselves as distinct activities, not carried away in, but exercising a reaction upon, the flow of physical sequences. This apprehension, in its most obscure form, involves what has been specially called the Will. The apprehension of ourselves is and can be nothing else than the apprehension of our personal voluntary activity. In its most mature and developed form this apprehension becomes what is called the consciousness of free will. The causal idea, however, is not dependent on any particular manifestations of this highest form of our activity. It is already present in its dawn in our primitive self-consciousness. It awakens side by side with the Ego; and is therefore truly, as M. Cousin calls it, the "primary idea."

The clear perception of this will clear away some difficulties from the view exhibited. It has been represented, for example, as if the advocates of the theory of efficient causation held the notion to be given altogether independently of experience in the very conception of voluntary action, apart from its exercise. They have been held as maintaining that the "feeling of energy or force inherent in an act of will is knowledge *à priori;* assurance prior to experience that we have the *power* of causing effects." * But, so far as we understand this statement at all, it seems to us to imply something which could not well be deliberately maintained by any one, however an incautious use of

* Mill's *Logic,* vol. i. p. 360.

expressions may have led the writer to suppose so. It implies something, certainly, which we are so far from maintaining, that it appears to us to be simply absurd and inconceivable. To speak of any mental possession as prior to or independent of experience, in the right and comprehensive meaning of that term, is to speak of something which, in the nature of things, is impossible. Our consciousness only comes into being under experience-conditions. All our mental life only arises under them; and of what it would be or contain apart from them, we can have no conception. Of an "assurance prior to experience, that we have the power of causing effects," we therefore know nothing. Experience is already present in the first act of consciousness, and our idea of cause flows from the primitive awakening of consciousness under the contact of experience. It is already given in the primary apprehension of our personal existence. It may, therefore, certainly be held before the mind apart from special results; but apart from voluntary activity, as such, and in a true sense, it is inconceivable.

Again, with reference to a special objection of more importance, the view we have presented seems to render it inapplicable. The objection in question deserves examination, as having been taken up by Sir W. Hamilton, and urged by him against our doctrine. The weakness, however, which Sir William assails successfully, does not lie in the doctrine itself, but only in the special statement of it which is the subject of his criticism. This statement is that of a distinguished French philosopher, M. de Biran, who has certainly the eminent merit of having, in the most elaborate

manner, fixed attention on the theory of causation under discussion. It is to this effect: "I will to move my arm, and I move it." This complex fact gives us on analysis: 1, The consciousness of an act of will; 2, The consciousness of motion produced; 3, The consciousness of a relation of the motion to the volition. This relation is in no respect a simple relation of succession. The motion not merely follows our will, or appears in conjunction with it, but it is consciously produced by it. The idea of power or cause is thus evolved. Sir W. Hamilton objects to the theory thus laid down, that the empirical fact on which it is founded is incorrect. "For," he says,* "between the overt fact of corporeal movement, which we perceive, and the internal act of the will to move, of which we are self-conscious, there intervenes a series of intermediate agencies, of which we are wholly unaware; consequently, we *can* have no consciousness, as this hypothesis maintains, of any causal connection between the extreme links of this chain—that is, between the volition to move and the arm moving." The same objection to the general doctrine is hinted at by Mr Mill,† and stated fully, and with all his usual ingenuity, by Hume, in his famous chapter on the idea of "necessary connection."

Now, it is not to be disputed that the point upon which this objection rests is indubitable—viz., that it is only through the intermediate agencies of the nerves and muscles that the act of volition goes forth in corporeal movement. Volitions produce nervous action, and this action again expresses itself

* *Phil. Discussions*, Appendix, p. 588.
† *Logic*, pp. 361, 371.

in outward movement. We have not, therefore, and cannot have, any proper consciousness of this movement. The volition or act of will itself is all of which we are properly conscious. But in this act, as we conceive, we have already sufficient basis for our theory. For what is this simple movement of the will but the Ego expressing itself? And in this original act of self-expression we have already, according to our view, the idea of cause. Will it be said that, apart from resultant motion or special activity, we could have no evidence of such self-expression? It may be readily granted that, had we possessed no experience of volition passing into activity; had, in truth, the present constitution of things been entirely different from what it is—for this is really what is asserted,—in such a supposed case there is no certainty that we could have had such evidence, or that—which is the same thing—volition could have been to us any longer a fact. We cannot tell; we have simply again to reply that we pretend to no elements of knowledge apart from experience in the sense here intended. All we know is, and can be, only known to us within the conditions of our actual being; in other words, within the sphere of experience. What we might or might not have known out of this sphere, it is utterly idle to conjecture, as we cannot, in the nature of the case, transcend it, and survey ourselves from a point above it. Thus, in the present case, the sense of will or power is to us a fact, given in the first dawn of self-consciousness, and repeated in every moment of self-consciousness. It is implied in every forth-putting of our being. It lies at its root, and our whole mental life is only a continual passing of it into activity. That

which is specially called the Will is, as already represented, implicitly contained in this original affirmation of self, in which all our knowledge begins. Special acts of freedom are merely special manifestations of a power quickened in us, or, more truly, which constitutes *us* (*the Me*) from the first. It is by no means necessary, therefore, that we should be directly conscious of corporeal movement, as the special result of an act of volition, in the sense set forth by M. de Biran, and questioned by Sir W. Hamilton and others, before we can attain the idea of cause. This idea emerges far more deeply in our spiritual life than is thus implied, and is quite independent of such special realisations as are here connected with it.

Let us review, then, the conclusion at which we have arrived; the meaning of causation as thus determined. A cause we have found to be truly coincident with an *agent;* to have its primitive type in the Ego, the living root of our being; and to be specially represented in that which constitutes the highest expression of our being, Free Will. A cause, therefore, implies Mind. More definitely, and in its full conception, it implies a rational will.

Let this conclusion be fairly pondered, and it will be found to sustain itself irrefragably. The Ego, which in its first dawn and highest life alone gives us the idea of cause, is simply the rational being which we call by the name of Mind. It is this being, no doubt, apprehended predominantly on the side of activity. But this activity, apart from the reason in which it inheres, and which it expresses, is nothing. We can never subtract the one element and leave

the other. We have been in the habit, indeed, of speaking of different mental faculties; but the mind is really one, and not a separable congeries of powers. Free will is and can be nothing else, therefore, than the highest or consummate expression of our rational being or mind; and a rational will the only fully answering idea to that of Cause. The one idea is the only commensurate of the other. The latter only exhausts itself, and finds rest, in the former.

We will now be able to understand the true character of the causation which we apprehend in nature. In the light of our spiritual consciousness, we everywhere perceive in nature a deeper meaning than it contains. We apprehend a living power in its continual flow. This is the general expression of what reason demands. It never stops short of this. But already it contains a higher and more explicit truth. Already, in its lowest indications, it points to one original, comprehending Will. The savage or childish apprehension of nature, as animated in its different movements by separate voluntary agents like ourselves,* is a mere dim and temporary expression of the rational necessity which knows no satisfaction till, driven upwards, it rests in the idea of one all-pervading Power—an Ultimate Cause.

According to this whole view, there is no such thing as mere physical causation. What is so denominated is of course a reality; but inasmuch as it is only in virtue of our spiritual life that we could ever find a cause in nature, this term is truly inapplicable to physical phenomena *per se:* nature cannot give what it does not contain. Physical

* Cousin *On Locke*, p. 166: Ed. Didier; Paris, 1847.

causes, apart from the idea of a will in which they originate, and which they manifest, have no meaning. Remove the one idea, and the other disappears. It is assuredly only in the reflection of a POWER beyond them, and in which they are contained, that such causes are or can be to us anything but antecedent phenomena. It is only as the expression of such a Will or Power that the physical order of the universe is recognised as caused. And this recognition is truly ineradicable and necessary; in no way affected by the discoveries of science; still asserting itself by the side of the most extended of these discoveries. Let science expose the domain of physical order as it may, Will is still present as its implicate and only explanation. And this Will, according to what we have already said, is no mere naked potentiality. We know nothing of Will apart from Reason; the one is to us merely the peculiarly active, the other the peculiarly intelligent, side of the same spiritual energy. They unite and form one in what we comprehensively call Mind, which we therefore recognise as the only adequate source and explanation of the universe.

It will be observed that we have confined ourselves to the fact of causation—what it implies. Our aim has been to find a true and final explanation of what we mean by a "cause." The principle of causality, in its characteristic of irresistibleness and necessity, has been rather assumed than dealt with: and rightly so; for the principle, under one form of explanation or another, cannot be said to be in dispute. The real and important subject of dispute is unquestionably what the principle—admitted to be one which con-

ditions human Intelligence—involves. What is its import? Does it lead us upwards merely from one link of sequences to another; or does it necessitate our finding, in all sequences, a higher element in which alone they inhere? Is Cause, in short, *Antecedence* or *Power?* This is the essential question, and it is this to which we have endeavoured to give an answer.

§ I.—CHAPTER III.

DOCTRINE OF FINAL CAUSES.

THE conclusion of the preceding chapter already clearly pointed to what we mean by the doctrine of Final Causes. The idea of causation we found to resolve itself into that of the operation of a rational will or mind in nature; and this operation, looked at deductively from a theological point of view, is neither more nor less than the doctrine before us. But while thus implicitly given in our previous argument, this doctrine, in its distinctive form, deserves from us a further and more attentive consideration. It deserves this especially, on account of the obscurity and misrepresentations in which it has been involved.

There is no doctrine which has been more misunderstood. The scientific applications of it have been confounded with its genuine theological import, and abuses resulting from the former perversely passed over to the discredit of the latter. What it really signifies, what is the comprehensive meaning in which the doctrine must be held, if it is to be held at all; has been often as little understood by its supporters as by its opponents.

The notion of Final Causes, for example, is frequently represented as if limited to organic or physiological phenomena. In a purely scientific relation, viewed as a *method* of scientific discovery, it may be rightly so limited; although, even in this respect, it seems only an absurd perversion of the doctrine, and not the doctrine itself, which can be truly held as an invalid guide of inquiry in any department of nature. It is only the confusion of its genuine meaning with an impertinent and barren curiosity,—the very opposite of its inquiring and reverent gaze,—which can render it abusively applicable to any order of phenomena.* But certainly, whatever view may be held on this point, there cannot remain any doubt in the minds of those who really understand the doctrine, that, in its higher theological meaning and relation, it is equally applicable to all orders of phenomena, organic and inorganic. It is true that, even in this higher relation, the doctrine has been especially applied to the organic products of creation, so that the argument from Design or Final Causes is probably interpreted by many, if not most minds, with exclusive reference to these products,—the wonderful structures of the vegetable and animal kingdom. But this has simply arisen from the fact, that design is capable of being more conspicuously traced in these structures, than in the more general and comprehensive phenomena presented to us by the inorganic kingdom. Assuredly it will not for a moment bear to be affirmed that

* This is the simple explanation of Lord Bacon's frequently-quoted disparagement of Final Causes. It was not the doctrine itself, in any true sense of it, but only the scholastic abuse of it, that he condemned.

the principle of design, rightly apprehended in the fundamental form in which alone it concerns the theistic argument, has any real application to the one class of phenomena which it has not to the other. It may have, in the one case, a more manifest application, and one, therefore, more effective for purposes of popular argumentation; but, beyond all question, there are no logical grounds on which the principle can sustain itself in the one case and not in the other. These grounds are equally valid or invalid in both cases. Supposing we admit them, design, the operation of Mind, is everywhere recognised in nature. Supposing we reject them, every such conception as that of "design," or "final cause," "end" or "purpose," disappears from nature.*

Let us then look still more closely at these grounds, that we may be thoroughly satisfied of their validity. Why is it that we apprehend everywhere in phenomena of order the operation of a rational will or mind? Simply because we cannot help doing so; because the laws of our rational

* The different modifications of the doctrine of Final Causes form a very interesting subject, were we reviewing the doctrine historically, instead of expounding the right view of it. The double relation of the doctrine has of course attracted attention, yet without any definite effort, so far as we are aware, to bring into clear harmony the more general doctrine, and the special form in which it has been applied in physiology. Boyle and Stewart both point to the respective theological and scientific uses of the doctrine, but they do not expound the relation of the latter to the former, which is all-important both for the interests of theology, and the validity of the equally disputed scientific principle. Nor do they concern themselves with the consideration of the more general and the more special form in which, even in a purely theological point of view, the doctrine admits of being apprehended and applied. Any obscurity that may seem to rest on these respective bearings of the doctrine is, we trust, sufficiently cleared up in the course of our discussion, and especially in a subsequent chapter, where the peculiar significance of the action of design in organic phenomena receives attention.

being compel us to do so. These will not permit us to rest short of Mind as an ultimate explanation of such phenomena. The theistic position, therefore, is based on an inherent rational necessity. We do not know where it could be so strongly based. We do not know, indeed, where else it could be based.

But this strong foundation is not conceded to us without controversy. How plainly the right and dignity thus claimed for Mind are repudiated by a certain school of thinkers, we have already seen; and the special arguments by which our position has been assailed by the same able writer with whom we have already engaged, and who so eminently, in the present day, represents the school in England, certainly deserve examination. These arguments no doubt originate in a fundamental opposition of philosophical principle, to which the discussion must always at length be driven back, and to which we might, therefore, confine ourselves; this opposition being neither more nor less than the old one of Spiritualism and Empiricism, Platonism and Epicureanism. Yet it may serve in some respects to strengthen our ground and elucidate the truth, to examine the more special reasoning of Mr Mill.

It is wholly denied by this writer that the tendency to find Mind everywhere in nature rests on an ineradicable necessity of reason. This is simply "the instinctive philosophy of the human mind in its earliest stage, before it has become familiar with any other invariable sequences than those between its own volitions and its voluntary acts." * . . . "Sequences

* *Logic*, vol. i. p. 365; second edition.

entirely physical and material, as soon as they had become sufficiently familiar to the human mind, came to be thought perfectly natural, and were regarded not only as needing no explanation, but as being capable of affording it to others, and even of serving as the ultimate explanation of things in general." * And, as illustrations of this, are instanced the early Greek philosophers, some of whom held that Moisture, and others that Air, was the universal cause. These are brought forward as examples to show that mankind, so far from regarding the action of matter upon matter as inconceivable, have even rested satisfied with some material element as a final principle of explanation. Others—and he mentions Leibnitz and the Cartesians—are also stated to have been so little of our way of thinking, that they found the "action of mind upon matter to be itself the grand inconceivability," to get over which they were forced to invent their respective theories of Pre-established Harmony and Occasional Causes. On the case of the Cartesians he dwells particularly—according to whose system, he says, "God is the only efficient cause, not *quâ* mind, or *quâ* endowed with volition, but *quâ* omnipotent." †

The best way of approaching the strength of our argument will be through these supposed illustrations of the adverse position. In the two latter instances, the real point at issue is certainly to some extent mistaken. The ground of discussion is at least so shifted as to draw off attention from that point. In speaking, for example, of the action of matter upon matter, and again of that

* *Logic*, vol. i. p. 366. † *Ibid.*, p. 369.

of mind upon matter, the special idea suggested is clearly as to the *mode* of action in the one case and the other, as if the real point were the conceivableness of this mode in the respective cases. But this is not in any sense the true question. The Theist does not profess to comprehend or explain the difficulty thus suggested. The mode of action of mind upon matter, or indeed the mode of connection between matter and matter, is acknowledged to be wholly inscrutable. The point in dispute is simply the *fact* of action or efficiency at all. In the one case—that is to say, when we apprehend Mind as the cause of phenomena—we are satisfied with this apprehension, not because we understand *how* Mind is the cause—or, in other words, how it acts upon matter—but simply because we know, in our own experience, that it *does so* act. We rest in Mind as a source and explanation of action generally, just because it is *to us* all this, and we know of nothing else that is this.

It is true that Leibnitz and the Cartesians did not regard the human mind in this light. Denying, as they did, finite efficiency, they could not, of course, rest in it as an explanation of action, any more than they could hold one physical element or event to be an explanation of another. Within the sphere of finite existence they did not recognise any efficiency; and hence the theory of Pre-established Harmony on the one hand, and that of Occasional Causes on the other, to account for the connection between finite spirit and matter. But so far was either Leibnitz or the Cartesians from denying the fact of efficiency as applied to the Divine Being, that it was just this fact they called in to solve the absurd

difficulty in which they had involved themselves. They could not conceive the action of finite mind upon matter. The fact was not enough for them; but they must understand it logically; and, being unable so to understand it, they arbitrarily called in the Divine efficiency to explain it. In the case of the Cartesians this is clearly admitted by Mr Mill; and it is undeniable in both cases, whatever may be said to the contrary.*

It does not seem, therefore, that the views of these philosophers, in their true and comprehensive sense, avail much for Mr Mill's position. It is, indeed, admitted that they did not recognise the fact of limited efficiency in the human mind, from which we rise argumentatively to the fact of the Divine efficiency, and that in their respective philosophies, accordingly, they did not leave any rational basis for Theism. We willingly abandon them as consistent theistic thinkers. Yet they were so far from resting short of the theistic conclusion—the conclusion of a Supreme Mind efficiently connected with things in general—that their respective theories rest expressly on the supposition of Divine efficiency. Mr Mill's refinement as to the Divine efficiency being appre-

* See (*Logic*, vol. i. p. 368) Mr Mill's strange attempt to prove that Leibnitz denied the ultimate adequacy of the Divine efficiency to account for things in general. Nothing could be farther from the true thought of Leibnitz. He merely says that he cannot conceive this efficiency working save in certain ways. The fact of the Divine efficiency is not in question, but only the mode of its working. The following are the words of Leibnitz, quoted and emphasized by Mr Mill: "Si Dieu donnait cette loi, par exemple, à un corps libre, de tourner à l'entour d'un certain centre, il faudrait ou qu'il y joignît d'autres corps qui par leur impulsion l'obligeassent de rester toujours dans son orbite circulaire, ou qu'il mit un ange à ses trousses, ou enfin il faudrait qu'il y concourât extraordinairement; car naturellement il s'ecartéra par la tangente."—LEIBNITZ'S Works, iii. 446: Ed. Dutens.

hended, not *quâ* mind or *quâ* volition, but *quâ* omnipotence —even if we were disposed to grant it—does not in the least militate against our view, according to which, as will be immediately more fully explained, it is only as resting in Mind that power has any meaning, or can have any. So far, therefore, from denying the theistic position—or, in other words, the fact of a Supreme Rational Will as the only explanation of things—it was in truth the peculiar error of Leibnitz and the Cartesians, that they pushed this position to such excess as to overbear the no less valid fact of the finite rational will, through which alone, according to our whole apprehension, the higher fact can be consistently reached.

A little examination will equally avail to obviate the force of the more pertinent illustration, drawn from the case of the early Greek philosophers, and even to show how its more correct understanding may be turned in favour of our position. These philosophers, says Mr Mill, found in some single physical element a sufficient explanation of things. If *they* could rest satisfied with such an explanation, this is a proof that there is no inherent mental necessity which compels us to place Mind at the head of things as their ultimate cause. But admitting that Thales * and Anaximenes acknowledged in the physical elements—the one of

* Thales—whose case is out of all question the most in point, he having, in virtue of his supposed views, been accused of Atheism—is yet expressly stated by Cicero to have only held that the νοῦς or Divine Intelligence created all things from water; a statement which at least ought to have so much weight as to convince us how little can be drawn from the fragmentary memorials of ancient Grecian philosophy to determine authoritatively the question before us.

Water, and the other of Air—not only a primordial principle or *prima materia*, but an ultimate cause or final explanation of things, it may be shown beyond dispute that they only held such an opinion in virtue of their having recognised in Water or Air respectively a peculiar formative energy. To borrow Mr Mill's own mode of explanation, with a fairer application than he makes of it, it was not *quâ* matter (this or that material form), but *quâ* the vital Energy or Soul * with which they were supposed endowed, that these elements were apprehended to be the fountain of existence. The idea of Originant force was what they mainly associated with the ἀρχὴ which they sought, whatever may be the merely material character which its name now suggests to us.

Now, in this recognition of the ancient Grecian philosophy, we have really, it is important to observe, the essential germ of our doctrine. Even if it be indisputable that the clear conception of the Ultimate Cause as intelligent were a later product of the same philosophy, it can be shown that in the acknowledgment (under whatever special form)

* That this was really the opinion of Anaximenes in regard to Air is admitted by Lewes, in his rapid and clever review of the Ancient Philosophers in the first volume of his *Biog. History of Philosophy*, p. 34; and the admission on his part, as being so truly a thinker after Mr Mill's own heart, is significant. Nay, so truly did Anaximenes recognise his original principle on the side of activity or productive energy, that he made it identical with the *soul*—the "something which moved him he knew not how." While Mr Lewes represents the doctrine of Thales as being of a lower character, he yet admits, in his case as well, the apprehension of a vital force, as prominent in the supposed primordial element, as indeed it is impossible in our view to conceive otherwise. He says in a note, p. 34: "When Anaximenes speaks of Air, as when Thales speaks of Water, we must not understand these elements as they appear in this or that determinate form on earth, but as Water and Air pregnant *with vital energy*."

of Force as the original spring of existence, there is already enfolded the great truth, of Mind forming the only final explanation of things. The grounds on which we rest this assertion will be immediately apparent. Rightly regarded, therefore, these early Grecian speculations, so far from being opposed to our position, furnish a powerful testimony to its strength. For what were they, one and all of them, but attempts to rise to the origin of things, and to apprehend them in the light of some single Living power or principle? To endeavour to represent them as evidences of the mind's capacity to rest short of such a living supernatural Cause, is profoundly to mistake, not only them, but the whole course and meaning of human speculation.*

The position, indeed, on which we rest—viz., the irrepressible necessity of the human mind thus to ascend to the origin of things, and to apprehend this origin as a Power above nature—is a position that so directly carries with it its own evidence, that, like all self-evident truths, it is difficult to deal with it argumentatively. All Religion and all Philosophy testify to it. They express, the one, the deep feeling of the common consciousness, the other the modified but no less genuine feeling of the reflective consciousness, that there is a Higher Source from which flow all the visible changes that occur around us. So far from this being the mere dictate of that instinctive philosophy of the human mind which disappears with the advance of science, it is the utterance of an ineradicable rational necessity, which never changes, how-

* It is even to mistake the fundamental law of human development expounded by Positivism, according to which man's earliest speculations are always of a *theological* character.

ever it may change its mode of expression. In one case the Ultimate Source or Power may be so rudely apprehended, and in another so refined and unified, that the two results may seem not to represent the same conviction; but it is the same rational necessity that speaks in both. It is the same truth, however in certain cases obscured and even distorted, that forces itself upon us. Men cannot rest in any lower truth: they are driven unceasingly upwards, till they rest in some ultimate and comprehending Power. They cannot be satisfied with any mere endless series of changes, which does not originate in such a Power, however various may otherwise be their notions of it. Every ascent along the chain of mere natural facts, leaves the mind still in search of an Origin beyond nature. Here alone it searches no more, but rests in peace. "We pass from effect to cause, from sequence to sequence, and from that to a higher cause, in search of something on which the mind can rest; but if we can do nothing but repeat this process, there is no use in it. We move our limbs, but make no advance. Our question is not answered, but evaded. The mind cannot acquiesce in the destiny thus presented to it, of being referred from event to event, from object to object, along an interminable vista of causation and time. Now this mode of stating the reply—to say that the mind *cannot thus be satisfied*—appears to be equivalent to saying that the mind is conscious of a principle in virtue of which such a view as this must be rejected; the mind takes refuge in the assumption of a First Cause from an employment inconsistent with its own nature."*

* Dr WHEWELL'S *Indications of the Creator*, p. 199.

But this irresistible tendency to believe in some Power above nature is not in itself, it may be said, commensurate with the position we have laid down—viz., that Mind is the only finally valid explanation of order. It gives us merely the vague idea of some First Cause. Now of course we do assert that the conception of Intelligence is plainly present in that most universal form of the faith in a First Cause to which we have appealed, and on which, in the last case, our position rests. We are content to accept this faith, in all its variety of explicit meaning, for what it is in itself simply and incontrovertibly,—viz., a testimony to *some* Higher Power. But what we do assert is, that this faith in the vaguest form *implicitly* contains the idea of Mind. For the lower fact has only existence in and through the higher. Mind is to us the only analagon of power or force. Our self-consciousness—according to the whole scope of our previous argument—supplies us with our only type of efficiency. Apart from, and independently of, Mind, there is no reason to think that the conception of force could have ever arisen within us. However, then, the generic element Intelligence may, in certain cases, be concealed behind mere Power, we only require to analyse and carry out the true meaning of the latter in order to find the former. Power may perhaps be held apart from Mind; but as it only comes through the latter, it certainly, as a fact, everywhere involves it, and has a constant tendency to return into it. It is true, there are states of society in which, either from gross ignorance or an overdriven speculative rage—which is no less, in the most real

sense, ignorance—the higher and more comprehensive significance is lost sight of, or does not distinctively emerge; but it is equally true that such states are abnormal and temporary, and that the narrower and more special idea can nowhere be long or consistently held without expanding into the other. Power can only permanently assert itself as the acknowledged attribute of Mind.

To those who have not thoroughly reflected on the subject, this may not seem an obvious conclusion; but there is nothing appears to us at once more true, and more important to be kept in view. Let it but be granted that we obtain the idea of force solely from the conscious operation of our own minds—and it does not seem, according to all we formerly said, and even according to the express basis of materialism, that this admits of any dispute,—and let it further be admitted that it is this idea of power or force in which alone we can ultimately rest in our impelled ascent to the Source of things,—it seems impossible that we can help recognising this Source as Intelligent, when it is only through the conscious fact and operation of our own intelligence that we have the idea with which it is identical. Power being only known to us at all as the expression of Mind, the Ultimate Power necessarily becomes to us an Ultimate Mind. Let it be, that the dim unexamined promptings of consciousness may permit us to rest for a little, and may even permit races, in whom intelligence, save as a blind force, is scarcely developed, to rest for ages, in the mere vague conception of Power in the external universe, this conception can never fail, in the clearer working of consciousness, to be transferred

into its full symbol—Mind.* We can no more, in fact, help making Mind objective, and apprehending it as the only ultimate cause or explanation of things, than we can help recognising existence under the forms of our mental constitution at all. The one result is simply the carrying out of the other.

* "Let us ask *how* the primordial force of pantheism is legitimately transformed into an attribute of an intelligence? Let a *designer* stand for an intelligence who is possessed of power, and who intentionally adapts means to an end. Design, therefore, will stand for *intentional* adaptation; and from the contemplation of *man*, we are enabled to make the above definitions without transcending the realm of experience. When we have made *man* objective, we can affirm, 'man can design;' and when we contemplate the *product* of man's design, we find it expressed in the terms, 'adaptation of means to an end,' where neither of the terms are psychological, but such are used legitimately in physical science. And when, on the other hand, we find in nature the adaptation of means to an end, we *infer* design and a designer, because the only circumstances within our experience in which we can trace the origination of adaptation, are those in which human *mind* is implicated. And thus what was at first an omnipresent and immortal *substance*, and afterwards an omnipresent and immortal *power*, becomes transformed into an omnipresent and immortal *intelligence*." We give this quotation from a recent work, marked by eminent ability (*The Theory of Human Progression*, p. 481-2), not as coinciding with its representation of the mode in which force becomes transformed into an attribute of Intelligence (Mind), in so far as that representation is exclusive; although we recognise the influence of the process to which the writer ascribes the origin of the idea of Intelligence, in educating and clearing up this phase of the theistic conception, as indeed our whole illustrative evidence is based on such a recognition. In this, however, we disagree with the representation of the writer before us,—that we recognise Mind as already implicitly given in Force—the higher, as already contained in the lower phase of the theistic conception—and on the very grounds on which he finds design in nature,—viz., that the only circumstances within our experience, in which we can trace force or origination of any kind, are those in which Mind is implicated—because Mind, in short, is to us the only analagon of force. Not only does adaptation, as a fact, give Mind, but Force (Cause), already in our view, however obscurely, gives it. The study of design in Creation does not, as we hold, add Intelligence for the first time to our original causal belief. For this belief already in its vaguest form only takes its rise in the conscious operation of *Mind*. The manifestations of design are, however, of the utmost value in quickening and educating the idea of Mind or Intelligence.

This is the final view of our position; and so clearly is it felt to be so, that it will be found that the opposite school of thinkers have retreated thither in an attitude of denial. This is felt to be the last and essential point on either side, and appears to us to be clearly indicated as such in that remarkable passage of Mr Mill which we quoted in the outset. Let it be admitted that Mind is the only efficient cause of things with which we are or can be acquainted: does this entitle us to place it at the head of nature? Because Mind is to us the only conceivable origin, does this justify us in making it the origin of things in general? Have we any right, in short, to apply the limited modes of our rational conceptivity to the universe? This appears to be a fair statement of the ultimate question. Mr Mill, indeed, might repudiate this statement. His eagerness to argue the question of efficient causes on the lower ground of their rejection not being incompatible with the "laws of our mental conceptivity," would seem to imply his willingness to abide by what might be proved to be the true character of these laws. But we think it plain beyond dispute, that the true source of his views lies in that deeper scepticism which treats the human soul as a mere product of nature, whose essential modes of conception do not necessarily mirror, in any true sense, the universe. And this position, which is more implied than asserted in his work, is openly and explicitly assumed by other writers of the same school. Human ideas are denied any correspondent relation to the Divine Existence. The attempt to bring the universe within the forms of man's reason, is represented as being

equivalent to the old sophistic canon of "man the measure of things." "At all times," writes Mr Lewes, "man has made God in his own image; he has idealised and intensified his own nature, and worshipped that. This he has ever done; this, perhaps, he ever will do. But we who, in serene philosophy, smile condescendingly on the ill-taught barbarian, whom we find attributing his motives, his passions, his infirmities, to the Creator of all—we who shudder at the idea of such anthropomorphism, how comes it that we also have fallen into the trap, and, having withdrawn from God the investiture of Passion, persist in substituting for it an abstraction named Reason? Is not God conceived to be pure Reason—omnipotent Intelligence? and as Intelligence is Lord and Master of this Universe, so what Intelligence recognises as perfect or imperfect, must *be* perfect or imperfect." *

This last assertion of materialistic infidelity deserves particular attention, for it embraces the whole sum of the question between it and a theistic Philosophy. It presents, we feel assured, the only consistent argument by which this Philosophy can be assailed. And it is full of pregnant meaning for the great issue at stake in Natural Theology, that it should become manifest that the validity of its conclusions can only be consistently disputed on grounds which can be shown to involve the negation of all Philosophy and all Theology, and which spring from a mode of thought essentially hostile to those highest expressions of truth which we so deeply venerate in Christianity.

* Comte's *Philosophy of the Sciences*. By G. H. Lewes, pp. 89, 90.

Let us see more particularly what this assertion involves. When it is alleged that the facts of the universe are not necessarily correspondent to the modes of human reason, what is implied? Undoubtedly this, that however man may observe and classify the facts of nature, these facts can never become to him truth, for it is only the light of interpretation with which his reason invests them, that makes them to him TRUTH. This, however, is called by our Positive Philosophers "anthropomorphism," and the boundless Life of the universe is represented as unwarrantably confined within the forms of man's interpretation. It is surely enough to say, in answer to such a view, that it is not possible to conceive how man could have ever known truth save under the conditions of his reason; and to allege, therefore, this necessary condition of his having any knowledge in proof of the weakness and incompetency of that knowledge, is simply a desperation of scepticism so ridiculous that we might well be pardoned for not attempting any reply to it. Whether or not there be any other truth in regard to the universe than that which the forms of his reason compel him to accept as such, must be to man an utterly idle question. There can be no other truth to him than that which he is thus compelled to accept. To state the matter still more pertinently, let it be admitted to be a fair hypothesis that there may be efficient causes in the universe entirely different from that of which alone he has, or can have, any idea, it yet remains a fact, that the universe is to him only conceivable as the production of Mind—Intelligent Power. It is a *fact*, according to our whole theory, that this

conception is one inextinguishable in human nature. And the refusal of the Positivist, therefore, to accept the verdict of human nature on the subject, simply amounts to an assertion of utter scepticism—a denial of any truth being possible to man.

Indeed, if the demands of our rational consciousness be repelled in this, one of its deepest expressions, it seems a clear inference, that not only truth in the highest sense is rendered impossible, but that even the foundations of Science are assailed. For if we refuse to accept the *rational* interpretation of nature in its full extent, we can have no right to accept it to any extent. If it be an inherent necessity of our mental constitution—which we have so fully shown it to be—that we recognise Mind in nature as its source, and we refuse that recognition, we thereby impugn the veracity of the human consciousness altogether, and leave no foot-hold for truth of any kind, according to the well-known maxim, which in such an application can admit of no dispute, "falsus in uno, falsus in omnibus." The final position assumed by Positivism might well, therefore, be left to its own refutation; for a position of such a character is self-destructive. Positivism is, in fact, essentially, whatever philosophical pretensions it may arrogate to itself, nothing else than a species of philosophical suicide.

The condition of all true science, as of all philosophy, lies in a totally different view of the relation of the human mind to the universe. They essentially presuppose, as the ground of their veracity, an original harmony between Mind and nature,

so that the former finds its own laws in the latter, and rightly relies on the reality of what it there finds. Man is thus conceived to stand to the whole world of material existence in the light of Interpreter. He is the prophet of the otherwise dumb oracle,—the voice of the otherwise silent symbol. He looks abroad with a clear confidence, that what he everywhere reads in the light of his own consciousness is the very truth and meaning which is there, and which he therefore ought to receive. Let this confidence be destroyed, and there remains for him no truth or genuine science that we can imagine.

It is important to observe the exact character of the relation thus maintained to exist between Mind and nature. The correct perception of it dissipates at once all ingenious and plausible misrepresentations with which it may be attacked. It is a relation of correspondence or harmony as already stated, so that Mind apprehends nature in a faithful mirror, and finds a reality answering to its intuitions; but it is not asserted to be a commensurate relation in the sense of the old dictum, "Man the measure of things." There is a most important distinction between the two views, amounting to all the difference between a sound and reverent philosophy, and that higher and more vaulting speculation which overleaps itself in the attempt to construct the universe from the mere abstract forms of human thought. In the latter case, alone, is man made the "measure of things," when he aspires not merely to *ap*prehend truth, and to stand face to face with it, but to *com*prehend and contain all truth within the limits of his mental conceptivity. In

the one case man only aspires to the knowledge of God, without which he were the most miserable of all beings—that inexplicable contradiction which he has been sometimes painted; in the other he aspires to be as God—an attitude in which he appears just as ridiculously and falsely exalted, as, in the other, he is wretchedly and falsely degraded.

We approach here that significant opposition in the modes of thought we are considering, at which we have already hinted, and which is highly worthy of our notice in conclusion. The question before us, resolved into this its most general shape, comes undoubtedly to be one regarding the whole position and dignity of man in the universe. According to the old religious view, on which Christianity, as well indeed as all Religion and all Philosophy, rests, man is considered to be not merely a creature, making his appearance in the course of nature, but a creature, while *in* nature, at the same time in a true sense above it—specially allied to its Divine Source. The perfect expression of this only truly religious and philosophic view is given in the imperishable language of Scripture—"God made man in His own image." The same truth is classically expressed in the memorial words —"In nature there is nothing great but man; in man there is nothing great but mind."

According to this view, man, while in the very fact of his present existence a product of nature, is yet endowed with capacities which exalt him far above it, and place him in a perfectly peculiar relation to the universe. He is indeed Matter, but yet Spirit. There is a Divine element of conscious reason in him, which asserts its superiority over

the whole sphere of nature, and validly finds its own laws in all. In one aspect of his being, indeed, he is purely natural—a mere element, and a very frail one, in the world-progress; but, in another aspect, he is truly supernatural, and even the whole universe is his inferior and subject. According to the fine thought of Pascal, "Man is but a reed, the feeblest thing in nature; but he is a reed that thinks (*un roseau pensant*). It needs not that the universe arm itself to crush him. An exhalation, a drop of water, suffices to destroy him. But were the universe to crush him, man is yet nobler than the universe, for he knows that he dies; and the universe, even in prevailing against him, knows not its power."*

"*Man is yet nobler than the universe.*" Here, where clearly centre the most significant depths of Christian doctrine, lies also the essential doctrine of Theism. The Infidelity which rejects it, therefore, is really, probed to its bottom, an infidelity not only in God, but in man. Reason is with it only the plaything of time—the growth of nature. With the Theist it is the first-born of Eternity—the very "image of God." The soul is infinitely higher than all nature, and validly, therefore, brings all nature within its sphere, and finds its own reflection everywhere in it. Matter is only glorified in the light of Spirit. Nature is only beautiful—only, in fact, intelligible—in the mirror of EVER-LIVING MIND.

We receive but what we give,
And in our life alone does Nature live.

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* *Pensées.* Faugere's edit. Tome ii. p. 84.

§ I.—CHAPTER IV.

THEISTIC CONCLUSION.—(GENERAL LAWS.)

THE major premiss of our theistic syllogism has been made good, according to the validity of our previous reasoning. More than this, the theistic conclusion itself, in its primary and most naked form, has been made good along with it. In the very nature of the case, the question passed over from its initiative and abstract, to its direct and conclusive statement. The minor premiss was held as implied; and the essential question came to be whether a mode of conception, valid in certain human applications, was valid in reference to nature at large—whether, in short, Mind, admitted to be to *man* the only efficient cause, was yet entitled to be considered the only efficient cause and final explanation of the *universe*.

We have claimed this position for Mind in virtue of a rational necessity, which will not allow us to rest short of such a conclusion. More particularly, we have endeavoured to vindicate it by determining the true nature of causation, which we find to be always a relation of efficiency, and which, therefore, at the very first, carried us be-

yond the mere range of physical sequences to some Power in which they originate. This Power can be nothing else than a Mind, as it is only in the fact and conscious operation of our own minds that we have the conception of power at all. The rational necessity on which the argument thus rests can only be consistently set aside by denying the veracity of our rational being altogether, and so destroying the foundations of all science and philosophy whatever. Mind is found in nature as a whole, and held to be its only ultimate explanation on the very same grounds on which we apply to nature the forms of our mental life at all. The theistic conclusion is only the fair result of the rational interpretation of nature carried out.

The conclusive sum of our previous argument gives us, then, when fully expressed, an Intelligent First Cause of nature. The root of this conclusion, however, is not in external nature, but in our rational consciousness. Nay, it emerges in what is distinctively called our moral consciousness. It starts from this as its special source. But, inasmuch as our spiritual life is a unity, this distinctive origin of the theistic conception does not affect, as some would seem to think, the appropriate significance and validity of the general argument from design. It only points to the deep harmony which underlies the whole of the theistic evidence. It only indicates where the links of that evidence gather up into a final and irrefragable postulate of our spiritual being.

Before passing from this branch of our subject, there is a relation of it which it may be well to consider,—with such

perverseness has it been misinterpreted and misapplied. It has been held that our conclusion is at variance with the results of Science. Science gives us, as the final expression of phenomena everywhere, general laws, to which the phenomena may all be traced back, and upon which they seem to depend. It is simply the aim of Science to discover these laws in every department of nature, and so to give to man a greater mastery over its multiplied resources. It is not, perhaps, much to be wondered at that, in the proud and continued triumph with which Science has pursued her course, there should have been some of her votaries who believed themselves not only exposing the domain of nature, but revealing the last truths which it concerns man to learn. And while the great conclusion of Theism has been thus deliberately discarded by certain minds, it has been felt by many more as if that conclusion were somehow dangerously affected by the discoveries of Science.

It will afterwards be our aim, in a more special way, to show how little the theistic position is affected by the most notable of these discoveries; how little, in truth, we can rest in even the most signal of general laws as self-explanatory,—as furnishing the last expression of truth for the human mind. The fact is, that any such law, instead of explaining the phenomena which *seem* to issue from it, is merely the general condition in which these phenomena express themselves, and apart from which it has no existence. Instead of the law explaining the phenomena, therefore, it might be more truly said that the phenomena explain the law, just as a sum in arithmetic gives

the answer rather than the answer the sum. The true realities are the separate facts. The law is only the summary expression by which we hold these facts before our mind.

In the mean time it concerns us to show how finely and truly, in a right point of view, the highest conceptions of Science harmonise with the theistic conclusion. It is only an unworthy and absurd representation of either that leaves any ground for hostility between them.

It has been presumed, for example, that there is an inconsistency between a self-acting power and that invariable uniformity which is seen to characterise the operations of nature. The order which Science discovers everywhere is supposed, in its silent and undeviating march, to exclude any personal agency. This agency is apprehended as something necessarily arbitrary, and hence as conflicting with general laws. Volition, in short, and law or order, are conceived of as incompatible realities; and the idea of any directing Volition is held as dispelled by the knowledge which Science enables us to acquire of natural phenomena, so that we can foretell and even control them.* Now,

* The following quotation will show that we do not misrepresent the doctrine of Positivism: "The fundamental character of all Theological Philosophy is the *conceiving of phenomena as subjected to Supernatural Volition, and consequently* (! !) *as eminently and irregularly variable.* Now, these Theological conceptions can only be subverted finally by means of these two general processes, whose popular success is infallible in the long run—(1) the *exact and rational prevision of phenomena,* and (2) the *possibility of modifying them,* so as to promote our own ends and advantages. The *former* immediately dispels the idea of any 'Directing Volition;' and the latter tends to the same result, under another point of view, by making us regard this power as subordinate to our own."—COMTE'S *Philosophy of the Sciences,* by LEWES, pp. 102, 103.

nothing can well be imagined more absurd and unphilosophical than such a notion of volition applied to the Supreme Being. The only valid presumption in the case would be of a totally different character. Instead of regularity being supposed inconsistent with the agency of such a Being, it would be held as only its appropriate expression. It is only the most vicious idea of will, as divorced from reason, that could for a moment give rise to a different apprehension. A Supreme Will, which is at the same time Supreme Wisdom, we can only think of as manifesting itself in order. The actual order of nature, therefore, so far from affording a ground of objection to the fact of superintending Volition, is just the very form in which we should rationally conceive that Volition to express itself. And the mastery which, by the help of Science, we acquire over the resources of nature, instead of destroying the notion of such Volition, only serves to bring into clearer view the wonderful means by which it works, and through which it provides for human happiness. The scientific prevision of phenomena is simply the interpretation of the plans of the Divine Reason by that human reason which is allied to it, and which only finds in the Divine plans the realisation of its own highest conceptions of order.

The same fundamental prejudice, strange as it may seem, is found even to pervade the language of Theology. Looking upon general laws more as vast mechanisms than living forces, the theologian too has been apt to consider them as inconsistent with the idea of directing Volition, or special Providence. They have seemed to him to destroy

that living guardian presence of God in nature which the heart instinctively cherishes: and he has, accordingly, sometimes spoken of them with a sort of jealousy. But, according to their right conception, they are very far from thus displacing and putting out of view the Divine Agency. So very far from doing this, they are truly nothing else than the expression of that Agency—the continual going forth of the Divine Efficiency. Instead, therefore, of postponing or removing to a distance the Divine Presence, they are everywhere simply the manifestations of that Presence. To suppose that, because the order of nature is fixed to us, the Divine Father cannot exercise through that order a special providence towards His children, is simply a presumptuous imagination of the most unworthy kind. For to the great Source of Being, who "seeth in all His works the end from the beginning," these only are at any moment, in all their endless intricacy of action and reaction, even as He appoints. The truer view, therefore, would be to regard the whole course of Providence, the whole order of nature, as special, in the sense of proceeding directly every moment from the awful abysses of Creative Power.

Certainly, if there is any correction needed in our theological conceptions and nomenclature on this subject, it is in reference to the supposition of a *general* rather than of a *special* Providence—of the former as in any true or intelligible sense distinguished from the latter. For surely, to conceive of any order of events, or any facts of nature, as less directly connected than others with their Divine Author, is an absurdity. And what, save this, can be distinctively meant by a general

Providence, we are at a loss to imagine. Only suppose the Deity equally present in all His works, equally active in all, and Providence no longer admits of a twofold apprehension. It is simply, in every possible mode of its conception, the Agency of God; equally mediate in all cases as expressing itself by *some* means, but also in all cases equally immediate as no less truly expressed in one species of means as in another. According to this higher and comprehensive view, the Divine Presence lives alike in all the Divine works. God is everywhere in nature, speaking to us the same language. He is equally near to us in all its more ordinary and more striking aspects; in the glad sunshine or the gentle shower, as in the boding darkness and the dreadful storm; in the fall of the leaf amid the fields of autumn, as in the waste of the whirlwind on the desolated plains of winter.

SUPPLEMENTARY CHAPTER.*

SPECIAL (GEOLOGICAL) EVIDENCE OF A CREATOR.

THE doctrine of an Intelligent First Cause, which it has been the aim of the foregoing chapter to establish, has been supposed to derive a special testimony and confirmation from the facts of Geological science. It has been maintained that these facts not only enable the Natural Theologian—as in the case of existing organic products—to infer a supreme Creative Mind, although this, too, they eminently do ; but moreover conduct us directly backwards to the presence and agency of such a Mind. In a word, they are said to take us out of the region of natural cause and effect, and to bring us face to face with the great Creative Cause. Lord Brougham, in his review of the memorable labours of Cuvier in the department of Fossil Osteology, was among the first to draw attention to the distinctive character and cogency of this branch of the theistic evidence. Dr Chalmers was dis-

* The character of the evidence treated of in this chapter sufficiently separates it from the general range of merely illustrative evidence. This, upon the whole, seemed to be the proper position for it.

posed to place great stress upon it, especially as serving in a direct and tangible way to extricate the Natural Theologian from the meshes of Hume's sophistry. The question it involves, the reader will at once recognise as one which has recently assumed a peculiar prominence and importance in scientific discussions.

Interesting, however, as this question is to the Natural Theologian, it is right to observe that we do not hold it to involve the essential interests of Theism. The theistic argument no doubt receives a striking illumination from the idea of successive creative interpositions, manifest in the very structure of the earth and its organic remains. It is in the highest degree significant, that, as we turn over the stony tablets of the Geological volume, we should not merely be arrested at every page with impressive manifestations of that pervading design which we perceive everywhere, but at definite intervals should gaze with awe upon the very record of Creation, and behold, as it were, the finger of Omnipotence in mysterious operation. Yet it is clearly evident to us, and deserves to be carefully considered, that even should advancing science tend to throw obscurity upon the supposed traces of direct Creative Energy, the great doctrine of Theism would remain altogether untouched. Even if those finger-prints of the Creator, upon which the Christian Geologist has delighted to expatiate, should become dim and obliterated, as the eye of Science grows more familiar with them, and pierces them with a keener scrutiny, the fact of a Creative Presence would not thereby be really affected. God would equally, if

not so strikingly, live and work in the supposed extended development of creation, as in the supposed instances of direct Creative Power.

It is worthy of notice how completely this is admitted by the chief expounder of the development hypothesis in our own country.* However his conclusions may seem, as they certainly seem to us, to obscure and pervert, in its highest meaning, the doctrine of Theism, they are yet by no means essentially, still less expressly, atheistic. On the contrary, the author strongly recognises a Supreme Mind, as necessarily implied in all the order of the universe; and, in the most recent edition of his work, he has added the special confession, that he "believes" in a *personal and intelligent God, and*

* This admission is, upon the whole, so clearly and happily expressed, that we are prompted to submit it to the reader. "What, in the Science of Nature," asks the author of the *Vestiges*, "is a law? It is merely the term applicable where any series of phenomena is seen invariably to occur in certain given circumstances, or in certain given conditions. Such phenomena are said to obey a law, because they appear to be under a rule or ordinance of constant operation. In the case of these physical laws, we can bring the idea to mathematical elements, and see that *numbers*, in the expression of space or of time, form, as it were, its basis. We thus trace in law, Intelligence. Often we can see that it has a beneficial object, still more strongly speaking of *Mind* as concerned in it. There cannot, however, be an *inherent intelligence* in these laws. The intelligence appears *external to the laws:* something of which the laws are but as the expressions of the Will and Power. If this be admitted, the laws cannot be regarded as primary or independent causes of the phenomena of the physical world. We come, in short, to a Being beyond nature—its Author, its God; infinite, inconceivable, it may be, and yet one whom these very laws present to us with attributes showing that our nature is in some way a faint and far-cast shadow of His, while all the gentlest and beautifullest of our emotions lead us to believe that we are as children in His care, and as vessels in His hand. Let it then be understood—and this is for the reader's special attention—that when rational law is spoken of here, reference is only made to the *mode* in which the Divine Power is exercised. It is but another phrase for the *action* of the ever-present and sustaining God."—P. 10.

*cannot conceive of dead matter receiving life otherwise than through Him.**

The peculiar question involved is not one which properly affects the existence of God, however deeply it may affect all for which that truth is important and dear to us. It is truly a question as to the mode of the Divine Agency. In the one case as in the other, a Creator is admitted; only in the one case it is maintained that we have (in the fact of the origin of life, for example—and again, of the successive animal species that have peopled the earth) the manifestations of a special Creative Energy; in the other, that we have merely the manifestations of an advance in the course of natural law—an advance not alleged to exclude the Creator, yet the immediate result of an inherent impulse originally imparted to matter, and not of a special creative fiat.

In the question thus at issue, the burden of proof lies plainly upon the advocate of the development hypothesis. He proposes a special theory to account for the ascending phenomena of creation, and the successive changes of organic being to which Geology testifies. This theory is one which is undeniably at variance with the law which now most obviously regulates the production of life. The very words in which the author of the *Vestiges* has expressed his theory imply this. The hypothetical development which he defends is one whereby, he says, "the simplest and most primitive type, *under a law to which that of like production is sub-*

* Appendix to *Vestiges*, p. 55; tenth edition.

ordinate, gave birth to the type next above it—this again produced the next type, and so on to the highest."* But the law of *like* production, which he here subordinates to a higher and more comprehensive law, is the only one with which, in the historical period of creation, we are familiar. As yet we certainly possess no valid evidence of a different law—or, in other words, of the transmutation of species—and still less of the origin of life under any material influences, electrical or otherwise.

True, it is admitted on all hands, that both vegetable and animal organisms are capable of certain degrees of variation and modification under external circumstances. There are even, it must be granted, certain indications among the lower forms of life of this modifiable capacity extending farther than was at first supposed. The alleged case of the *Ægilops ovata* † is an illustration. But, admitting all this, it will not be contended that any *series* of facts, as yet discovered by science, tends to establish a doctrine of mutation of species. Indications there have been sufficiently curious, and fitted to arrest the inductive inquirer as to the supposed accuracy of his specific distinctions, but certainly no foundation whatever for denying the reality of such distinctions. Nay, the fact that organisms generally are modifiable within certain limits, but not beyond them—that this is the unquestionable law of organic species within the historical period, would seem to imply that there is, in all

* *Vestiges;* Appendix, p. 60.

† This naturally barren grass, according to the alleged discovery of M. Esprit Fabre, is merely the wild form of cultivated wheat.

cases, a set boundary to the operation of external influences. Definite variability *within* the range of species would seem to form just the most strongly presumptive evidence of the substantive and radical distinction of species. This is clearly the truth to which the "overbalance of physiological authority" testifies. The decision of the authority is thus expressed by Dr Whewell: "There is a capacity in all species to accommodate themselves, to a certain extent, to a change of external circumstances, this extent varying greatly according to the species. There may thus arise changes of appearance or structure, and some of these changes are transmissible to the offspring; but the mutations thus superinduced are governed by constant laws, and confined within certain limits. Indefinite divergence from the original type is not possible; and the extreme limit of possible variation may usually be reached in a short period of time. In short, *species have a real existence in nature*, and a transmutation from one to another does not exist." *

We are aware that it is argued by the advocate of development that the law of mutation of species, which we fail to discover in the present order of things, may yet have been in active operation throughout the lengthened periods of Geological history, in comparison with which the years of man's scientific observation of the earth are not to be reckoned; but until he can show this, it is at least the safer course to abide by the testimony of historical experience. Here and now we perceive that the law of like from like is

* *Indications of the Creator*, p. 100.

the law of organic production; and if the fact of this being the present law will not perhaps entitle us to pronounce authoritatively that it was the law as well of the ancient periods of the earth, still less, surely, are we warranted in admitting the operation of a wholly different law during these periods, without a wholly different kind of evidence from that which Geology has yet furnished.

But even if there were as many presumptions in favour of the theory of the transmutation of species as there are presumptions against it, there would still remain the stubborn and inexplicable fact of LIFE (not to mention the higher facts of Intelligence and Responsibility) in the way of the adoption of the hypothesis of the *Vestiges*. For it will hardly be seriously maintained that any of the attempts which have been made to explain by natural means the genesis of life from dead matter, deserves from us other acknowledgment than is ever due to the persevering and aspiring efforts of Science, in whatever direction. The theory of *spontaneous generation*, in any shape, has undoubtedly been losing rather than gaining ground from the late advances of physiology. Suppositions, at one time pretty generally entertained, as to the production of infusory animalcula apart from *ova*, have been pronounced by Professor Owen, in conformity with the result of his recent researches into the various modes of reproduction with which nature has provided these animals, to be "quite gratuitous."* The more thoroughly, indeed, the minuter facts of nature are apprehended—the

* *Lectures on Comparative Anatomy*, vol. ii. p. 190, quoted by Hitchcock in his *Religion of Geology*, p. 269.

more the light of science is cast upon them—only the deeper becomes the mystery of Life. Instead of our approaching the exposure of this secret, we are only the more fully taught that it lies beyond our scrutiny, and must for ever baffle our research.

In the view of the facts thus briefly urged, which leave the development hypothesis at the best a mere unsupported, if not uninteresting, conjecture, it cannot be doubted that the theory of successive creations, defended by all our highest Geologists, is the one which has most claim to our acceptance. It proceeds on an obvious basis of facts, which not only warrants, but, in the mean time at least, seems to necessitate it. In tracing backwards the Geological history, we meet with phenomena which do not relate themselves to antecedent phenomena in the way of natural cause and effect. The supposition of a Supernatural or Creative Cause seems inevitable. Be it observed that this theory, according to its just meaning, does not put itself forward as a dogma. It does not interdict inquiry, and pronounce that there are no links of natural sequence between the phenomena in question; it only states that none such have been proved. It does not judge nature, but simply interprets it; asserting merely as matter of fact, that no such links have been exposed; that in our retrogressive ascent along the course of creation we reach gaps in the evolution of physical sequences — points which yield no natural explanation, and which therefore necessitate a Supernatural. We trace backwards the threads of physical relations, till we can go no farther by the boldest light of Science, until, by the very penetrating blaze

of its torch, we are brought face to face with directly Creative Power.

In thus recognising successive interventions of direct Creative Power in the Geological history, we do not for a moment necessarily deny the presence of a general order of procession among the phenomena of creation. The advocates of development have indeed dexterously sought to represent their theory as the only possible conception of processional order, applied to the universe. They have put the question as between it and any intelligible theory at all. But this is wholly unwarrantable ; for it surely is not in the least degree necessary that we hold that the whole process of creation has been a mere evolution from primordial principles at first imparted to matter—that, in the language of Dr Whewell, "*Life grows out of dead matter, the higher animals out of the lower, and man out of brutes,*"*—in order to be able to discover a true and vast order of progress in the course of creation. Such a merely mechanical development appears, on the contrary, from its very affectation of simplicity, to be an ambiguous and suspicious conception. In any case it can have no claim, *a priori*, to represent the process of creation ; and they who discredit it are not to be supposed at all insensible "to the wonderful order and harmony, the gradations and connections, which run through the forms of animal life, and enable the anatomist and physiologist to pass in thought, along the unbroken line, from the rudest and simplest organic germs to the most completely developed animal structure."†

* Dr WHEWELL'S *Indications*, Preface, p. 12. † Ibid., p. 13.

The idea of an ascensional order of creation is one which, in our opinion, the Christian Theist is by no means called upon to dispute; and perhaps it will be admitted, on a calm review of the recent controversy on the subject, that too much anxiety has been evinced to break up the alleged evidence of ascension—of development, in a true sense, upon which the author of the *Vestiges* has founded his conclusions. Even should the supposed discovery of vertebrated fossils in the lower Silurian rocks, as recently reported, be, in the end, able to sustain itself, this would by no means settle the matter against the theory of ascent. It would by no means follow that the course of creation may not have been, as a whole, from the lower to the higher, although we may yet discover the highest animals in the lowest stratified rocks. Such a discovery would, no doubt, bear with damaging effect against the author of the *Vestiges*, but it would not at all necessarily destroy a rational theory of development. It does not and cannot overturn the idea of a regular procession of species; it only removes the date and verge of that procession farther back. This is all that such a discovery would necessarily imply; and as Theism has nothing to dread from the idea of a processional advance from the lower to the higher types of being, rightly apprehended—while this idea is one which commends itself by its suggestive grandeur—we do not see that it should either attract suspicion or provoke refutation.

If only we hold by the clear conception of the course of nature—or, in other words, Providence—being nothing else than a continued forth-putting of originally Creative Energy,

we shall see nothing to surprise us in the gradual rise and ever-expanding development of new forms of being along the march of creation. These will seem to us, on the contrary, just what we might expect, so far as our expectations have any claim to be regarded in the matter; only brighter flushings, as it were, of the Divine Presence, here and there, along the extended scroll of creation, telling more directly of the radiant Power which it everywhere reveals.

And this view is that which no less tells most decisively against the hypothesis of the *Vestiges*. It is the same vicious metaphysical assumption which we have seen to underly the reasoning of the Positive School as to the direct action of Divine Will being something necessarily irregular —being what is called (in language which concentrates the whole perverted essence of the assumption) an "interference." It is undoubtedly this vicious idea, as to a necessary opposition between law and Creative Will, which lies at the root of the whole reasoning of the *Vestiges*, and forms the most vital question between the author and his opponents. But why, we may surely ask, should direct Creative action be necessarily conceived of as an interference, and, as such, unworthy of the Infinite repose and majesty of God?* What is law itself, according to the clear admission of the writer, but a mode of the Divine Efficiency—an expression of the Divine Mind or Will? What is it that constitutes the permanence which we peculiarly ascribe to law—

* Every one familiar with the *Vestiges* will recall how repeatedly the author falls back upon this assumption as to the Divine character and mode of action. It is the pervading idea, in fact, in which the book obviously originated.

to the order of Providence — but the continued forth-putting of that Efficiency? Were this forth-putting to cease any moment, the law would disappear, the course of Providence would dissolve and vanish away. Now, because God, for obvious reasons, maintains the forth-puttings of His Efficient Energy, after certain modes which, collectively, we call Nature, why should this exclude new and special forth-puttings of that energy, when He may see meet—in other words, when fitting occasions may arise? Why should such fresh expressions of Creative Power be supposed to be irregularities, "interferences" in the great plan of creation — and not, as according to the genuine theistic conception they truly are, parts in the development of that great plan contemplated from the first? Is not the former supposition the one which truly degrades that Infinite Being, "who knoweth all His works from the beginning to the end?"

The truth is, it is only the most deep-seated anthropomorphism (which is yet the peculiar contempt of Materialism) that gives rise to the imagination of a conflict between law or order, and the special action of the Divine Will, in any case. For if we remove the wholly human element of imperfection, all such possible discrepancy disappears. In this conception of the Highest, all arbitrariness vanishes, and the whole order of nature is apprehended as simply a continued efflux of Infinite Power and Wisdom.

SECTION II.

ILLUSTRATIVE (INDUCTIVE) EVIDENCE.

§ II.—CHAPTER I.

COSMICAL ARRANGEMENTS.

In the course of our previous argument we have assumed that nature everywhere presents an aspect of Order. This we were quite warranted in doing from the universal testimony of Science; and on this assumption our argument advanced directly to its conclusion. Mind was found entitled to stand at the head of nature as its only valid explanation. With a view, however, to the complete exhibition of the theistic doctrine, it is necessary to return to the minor premiss of our syllogism, and unfold it at length. It is only by a detailed exposition of the fact of order, as it reveals itself in manifold forms in nature, that we can fully show "that there is an all-powerful, Wise, and Good Being, by whom everything exists."

We begin our illustrative survey with the most general and comprehensive phenomena that can engage us; those, namely, disclosed by astronomy. The celestial arrangements are at once the most simple and the most magnificent of which we have any knowledge—the most independent, and at

the same time the most widely influential, of all others. Astronomical science, above every other, has enlarged and transformed our conceptions of the universe. Has the grand utterance of ancient piety, "The Heavens declare the glory of God," lost anything of its meaning in the light of modern discovery? Or have the ever-expanding disclosures of the telescope only added to it a depth and grandeur of meaning hitherto inconceivable? We will endeavour in this chapter to find an answer to these questions.

The general character of our solar system may be said to be now familiar to the common intelligence. It is composed, so far as has hitherto been discovered, of eight planetary bodies of what is called first-class magnitude, surrounding the sun at different distances, with a comparatively numerous group of smaller bodies circling between the orbits of Mars and Jupiter. Previous to the year 1845 there were only reckoned four of these lesser bodies; but, on the 8th of December of that year, a fifth member of the group was discovered by Hencke; and, since then, yearly observation has been adding to their number.* It is, moreover, only a few years since the last we know of the larger order of planets was discovered. Previously, Uranus was supposed to be the outermost of our system; but, in the year 1846, the independent calculations of two students† conducted almost simultaneously to the discovery of another planetary body removed far beyond the orbit of Uranus, and circling round

* Up to the present date no fewer than thirty-two of these smaller bodies have been discovered, chiefly through the labours of an English observer, Mr Hind.

† Leverrier and Adams.

the sun in about double its year. The extent of the solar system was thus immensely augmented. Before, it was calculated to embrace a portion of space not less than three thousand six hundred millions of miles in diameter. But now this vast tract has been to our view nearly doubled. Almost twice the distance of Uranus, another world has been found attached to our system, and revolving in the warmth of our sun.

But the solar system, stupendous as it is, occupies only a small portion of the expanse of space. Even to the eye, that space is seen to be peopled with a multitude of starry bodies, of a character quite different from those that move around our sun; and the telescope brings into view not merely thousands, but millions of these bodies. The great zone of the Milky Way, which has in all ages arrested attention from its peculiar appearance, is found, on the application of the telescope, to verify the conjecture of an ancient philosopher, and to be nothing else than a pathway of stars, so densely crowded as to be separately indistinguishable to the unaided eye. These countless orbs Science teaches us to regard as suns similar to our own, with attendant planetary trains, although actual traces of these latter can scarcely be said to be yet discovered. Every bright and twinkling point above us, that seems to stand as a mere brilliant gem in the nocturnal crown of our earth, is probably the luminous centre of a system often far exceeding that to which we belong. For, shining as many of the stars do, with a brilliancy greatly more intense than that of our sun

(Sirius is reckoned equal to sixty-three suns), it is only a likely inference that they irradiate and control much vaster systems.

But not only has Science taught us to see in the starry firmament unnumbered repetitions of simple systems resembling our own; it has, moreover, disclosed binary systems, and even triple and quadruple, and higher combinations, all entering into the scheme of the stellar universe. The mind is thus not only transported in space far beyond our system; the magnitudes and distances with which it makes us familiar are not only enlarged beyond all our powers of imagination—the nearest star (α Centauri) being not fewer than twenty millions of millions of miles away from us, or about seven hundred times farther removed from our sun than the planet Neptune;—we are further introduced into wholly new orders of worlds, marked by the most wonderful diversities. What strange and interesting changes alone must result from the simplest of the combinations which we have mentioned! If we suppose, as it is allowable to do, that each of the suns in such a system has its attendant planets, how novel the physical conditions! how singular the complexities of relationship which they must present! "Besides passing through the varying climates of a year, depending on its revolution around its own luminary, every planet of either system must undergo the changes of another cycle, whose course is the great period of the Binary system, and which at one of its terms must subject it to the influence of two suns virtually in contact! And as to the movements of

bodies acted on by forces so strange and fluctuating, we can have little other idea except that it is a sequence or succession of *bouleversements*, the virtual periodic overthrowing by each sun of the independence of the system established by the other, which again is to recover itself in so far during the years leading to their elongation." * If we add to these considerations the well-ascertained fact of the diversity of colour which distinguishes not a few of the double stars,† we shall derive a still more striking impression of the peculiarities of Existence to be found in the stellar spaces—peculiarities doubtless increasing in novelty and intricacy with the ascending complexity of the starry groups. In the language of Sir John Herschel, "it may be easier suggested in words than conceived in imagination what a variety of illumination two stars—a red and a green, or a yellow and blue one—must afford a planet circulating around either; and what cheering contrasts and grateful vicissitudes—a red and a green day, for instance, alternating with a white one and with darkness—must arise from the presence or absence of one or other, or both, from the horizon!"

But all this even by no means exhausts the extent of view or variety of cosmical life which the telescope has revealed to us. We are enabled, by the light of recent astronomy,

* Nichol's *Architecture of the Heavens*, p. 217.

† Struve records that in at least one hundred and four binary systems the two stars exhibit the complementary colours—that is, the colour of one constituent belongs to the red or least refrangible end of the spectrum, while that of the other belongs to the violet or most refrangible extremity.—*Ibid.*, p. 218.

to penetrate to still vaster depths and hitherto unimagined worlds. In various quarters of the heavens the telescope has discovered patches of dim hazy light, now well known by the name of *Nebulæ*. Some of these were from the first recognised to be dense clusters of stars, only rendered indistinct and nebulous from their immense remoteness; others, however, were supposed to possess a quite distinct character —to be portions of diffused gaseous matter incapable of being resolved by any telescopic power, but, as was conjectured, in the course of being condensed into separate stars. And so generally did this view prevail for a while, that an hypothesis was built upon it to explain the whole course of cosmical creation. Many of the phenomena, however, upon which this hypothesis rested, have been found to lose their supposed character of distinction under the application of Lord Rosse's magnificent telescope, so recently brought to the service of astronomy. Nebulous masses, previously irresolvable, have been at once resolved by it. What had seemed only dim patches of twilight haze, as yet unformed into suns, are discovered to be already systems of countless suns glowing with ancient fire.

The great conclusion to which these nebulous phenomena everywhere point is, that the starry firmament of which our system is a part, is only a member of innumerable galaxies of firmaments that people the tracts of space. The millions of suns that shoot towards us their arrowy light from such immeasurable distances, and the millions of systems attached to them, are after all, as it were, an insignificant portion of

the suns and systems that actually exist. Beyond the limits of our sidereal firmament, and with what spaces of desert and trackless gloom intervening we cannot in the feeblest degree imagine, there lie other firmaments, it may be far vaster and grander than our own. Looking out far beyond the milk-white girdle of our own galaxy, we are transported into regions where other galaxies lie all around, some of them of the most strange and marvellously impressive shapes. "Improbable as it must have seemed," says Dr Nichol,* "previous to discovery by unimpeachable observation, the *spiral figure is characteristic of an extensive class of galaxies.* Majestic associations of orbs, arranged in this winding form—branches, as above, issuing like a divergent geometric curve from a globular cluster,—*these* rise up on all sides as the telescope journeys onward, supplanting shapes formerly imagined to be most simple, because of their obscurity." Unexhausted marvels thus crowd upon us as we penetrate into space; for, after all that the telescope has even now revealed, we know not what may still lie beyond. When we remember that, in order to enable us to see anything by the telescope or otherwise, light must reach us from it, may there not be firmaments so immeasurably distant as to be beyond our utmost powers of vision? So distant are some of the ascertained nebulæ that their light is not supposed to reach us in less than fifty thousand or sixty thousand years. How true may it be, then, that there may be many starry shores in the sea of

* *Architecture of the Heavens*, p. 94.

immensity, bright with a beauty of their own, no ray from which ever shines on us.

If we now turn from the first bewildering view of these vast cosmical revelations to contemplate them more steadily, we find throughout all the august presence of ORDER. Even in those twilight regions, in which the telescope is our only guide, and among phenomena whose very existence it struggligly essays to determine, we find ever, along with the mere fact of existence, indications of arrangement. Speaking of those most recent marvels of cosmical being, the spiral nebulæ, Dr Nichol testifies that, mysterious and bewildering as seem such shapes, they "have nothing in common with the fantastic creations of a dream. It is the essence of these nebulæ that they are not formless, but, on the contrary, impressed indelibly by system on the grandest scale: clearly as a leaf, they have an organism; something has seized on their enormous volumes, and moulded them into a wonderful order." *

Passing to our own galaxy, and the diversified phenomena which it presents, we can, in the nature of things, trace more distinctly the indications of system. Besides the motions to which we have already referred of multiple stars around one another, revealing such grand and peculiar varieties of order, it may now be said to be established that there is a general motion pervading our galaxy. So long ago as 1783, Sir William Herschel was impressed with the fact of our sun being in movement, and this fact has at length been amply verified. The sun's course is found to be

* *Architecture of the Heavens*, p. 100.

towards the constellation Hercules, and the rate even of his progress has been calculated. As there can exist no doubt that this solar motion is only a type of what prevails among the stars generally, we are thus led to the conclusion of a grand galactic movement. Whatever credit may be due to Professor Mädler's conjecture, that the present position of one of the Pleiades (the star Alcyone) represents the apparent position of the common centre of force to the firmamental system, there cannot be any question that our sun and the other stars are revolving round such a distant centre. And this mighty movement, however we may more particularly regard it, is a vast harmonious one, shared in by the several orbitual systems. The subordinate movements of so much variety and complexity unite in the general procession, which sway, as with an instinct of brotherhood, all the members of the galaxy. There is no appearance of disorder or disruption. One vast government guides the whole.

As far as we can penetrate, therefore, and wherever we trace existence, we trace, at the same time, order. The discoveries of astronomy, in their widest and most marvellous bearings, are simply revelations of hitherto hidden harmonies.

And as we descend from these loftier stellar spaces—in which, with all we see, we still see so imperfectly—to the sphere of our own system, whose magnitudes and movements have been so accurately determined, we find the evidences of arrangement to multiply around us. This is only what we might expect. While travelling, by the help of the telescope, in regions so remote as those of stellar existence, we

can but faintly note the special combinations which there exist. It is only far-off and partial glimpses of those higher mechanisms we can catch. Darkness still overhangs the bright route of the telescope. It is enough that what we do see everywhere speaks of order.

But in the contemplation of our own planetary system, we are not only able to mark the general presence of order,—we can note and appreciate, moreover, the several special conditions entering into the construction of the system, and on which, as well as on the great pervading energies of attraction and impulse, its maintenance depends. These conditions are all so many instances of arrangement. This has been recently so well shown by Dr Whewell in his Bridgewater Treatise, that nothing almost remains to be added to his impressive argument. We merely present one or two of its features.

Among the most marked characteristics of our system is the luminous nature of its central body. Nowhere else, obviously, could light have been placed with equal advantage for diffusion throughout the entire system. Now, whence this light? It cannot be said that there is any necessary connection between the mere matter of the sun and its luminousness. According to the conjectures of astronomers, indeed, the heat and light of the sun are not supposed to reside in its mass, but in a coating or envelope which surrounds it. Why, then, should it come to pass that this coating of light should be, among the bodies of the system, confined to the sun, just where it is peculiarly adapted for use? The mere position of the sun cannot furnish any

adequate explanation of this. Its position displays the fitness of the fact; but we are unable to recognise any necessity for the fact in the position. The only admissible conclusion is, that this was an express arrangement designed for the purpose which it so obviously serves. Newton was particularly impressed with the force of this conclusion. In the first of his famous series of letters to Bentley, he has expressed it with his wonted simplicity and force. Allowing that matter would collect into masses by the power of attraction, he believes that the sun and fixed stars might thus be formed, supposing the matter were of a lucid nature. "But how," he continues, "the matter should divide itself into two sorts, and that part of it which is fit to compose a shining body should fall down into one mass and make a sun, and the rest, which is fit to compose an opaque body, should coalesce, not into one great body, like the shining matter, but into many little ones; or if the sun were at first an opaque body like the planets, or the planets lucid bodies like the sun, how he alone should be changed into a shining body, whilst all they continue opaque; or all they be changed into opaque ones, while he continued unchanged,—I do not think explicable by mere natural causes, but am forced to ascribe it to the counsel and contrivance of a voluntary Agent."

The uniform character of the planetary motions presents striking evidence of order. We find these motions to be all in nearly circular orbits in the same direction, and in nearly the same plane. There is here surely the clear impress of arrangement. For to what can we attribute this

uniformity, save to a uniform determination of original impulse? "There is but one circle; there are an infinite number of ovals. Any original impulse would give some oval, but only one particular impulse, determinate in velocity and direction, will give a circle. If we suppose the planet to be originally projected, it must be projected perpendicularly to its distance from the sun, and with a certain precise velocity, in order that the motion may be circular. . . . No one can believe that the orbits were made to be so nearly circles by chance, any more than he can believe that a target, such as archers are accustomed to shoot at, was painted in concentric circles by the accidental dashes of a brush in the hands of a blind man."* And this conviction is greatly heightened when we bring into view the further features of the planetary motions. For anything in the nature of the case that we can see, any one of the planets might have moved in a different direction, or in a different plane; but not one of them does so. It is not merely a single uniformity which characterises their motions, but they present exactly the same combination of uniformities. The inference seems irresistible, that such a combination of identical results could only spring from an identity of purpose.

But the proof of arrangement comes out most strongly when we contemplate the great end which these uniformities of planetary movement subserve in the maintenance of the system. Had a different determination been given to any one of the elements of this movement, it is demonstrable

* Dr Whewell's Bridgewater Treatise, pp. 154, 156.

that the stability of the system would have been impaired. Had, for example, the orbits of the planets been of extremely varied eccentricity, instead of being, as they are, nearly circular—had they moved in different directions, or in different planes, it is undoubted that, under the existing law of gravitation, their mutual interferences would have terminated in confusion and destruction. Even as it is, the attraction of the planets upon one another, as well as upon the sun, results in a partial derangement, which, however insignificant over a given space of time, it was for a time supposed might, in the lapse of ages, end in breaking up the system. Under the influence of their mutual attraction, changes are actually going on in the motions of the planetary bodies; the eccentricity of the earth's orbit is diminishing, the moon is approaching nearer the earth, and its motion in consequence becoming accelerated. So slight, indeed, is the course of these changes, and so vast the cycle in which they run, that they have been going on progressively from the earliest observations to our own times. Yet, if they were unlimited, it cannot be doubted that they would at length reach a climax of subversion and ruin. And for some time it was really uncertain whether our system might not thus be tending, from the inherent character of its constitution, to decay. Newton did not undertake to pronounce upon the question; but Lagrange and Laplace succeeded in showing that this partial derangement, extending over such lengthened periods, was yet only of limited operation. After reaching a certain stage, reaction ensues. The orbits do not continue to deviate in one direction; but they deviate period-

ically now in this, and now in the opposite direction. The planetary perturbations are not indefinitely progressive, long as they continue in one direction, but oscillatory. After reaching a certain height they return and correct themselves. And what chiefly deserves our attention is, that the special conditions of this periodical adjustment of the planetary system are those uniformities of movement which so prominently characterise the various bodies of the system. "I have succeeded," says Laplace, "in demonstrating that whatever be the masses of the planets, in consequence of the fact *that they all move in the same direction, in orbits of small eccentricity, and slightly inclined to each other*, their secular inequalities are periodical, and included within narrow limits; so that the planetary system will only oscillate about a mean state, and will never deviate from it except by a very small quantity."*

When we turn from these special characteristics of the planetary movements to the great law expressed in all, and under which they all proceed, the same aptitude of appointment meets us. While it cannot be said that of all laws that of gravitation is the only conceivable one, the only one compatible with the maintenance of the system, it has yet been shown, in the clearest manner, that of all others this law is at once the most fitting and the most simple. It is owing alone to the particular measure of the attractive force that the planets return regularly in the same track, preserving with very slight deviations the same periods in their revolutions. Had this force varied other-

* *Système du Monde*, book iv. chap. ii. p. 226, quoted by Dr Whewell, p. 164.

wise than inversely with the square of the distance, this regularity in the orbits of the planets would have been entirely destroyed.* It is remarkable, moreover, that this is the only law save that of direct distance (otherwise unsuitable) which is the same for spherical masses, such as the planets, and for the separate particles composing them. This is surely a significant and wonderful provision. The mind is filled with a solemn sense of simplicity as it contemplates the varied and beautiful operation of such a law, alike binding the dew into glistening gems, and holding the planets and the stars in their courses.

On the whole, we perceive everywhere among the celestial phenomena, adaptation. Order meets us wherever we turn our gaze. The old atheistic notion of chance has wholly disappeared before the discoveries of science. Everywhere, therefore, in the course of our survey, the theistic conclusion is impressively forced upon us. The agency of a mighty Mind, working in all this order, is irresistibly manifested. As of old, the "heavens declare the glory of God." In the language of Newton, "*Elegantissima hæcce compages solis, planetarum et cometarum* (*et stellarum*) *non nisi consilio et dominio Entis cujusdam potentis et intelligentis oriri potuit.*"

In this conclusion we might rest securely on the grounds already laid down. It is irrefragable, on our general basis of reason. In reference, however, to certain objections which have been specially urged against it in this region, it deserves some further attention. Astronomy is the

* Dr Whewell's Bridgewater Treatise, p. 220.

favourite sphere of the scientific materialist. Whatever sciences may still linger within the domain of theology, this is considered finally emancipated from its control. Those same facts which to the reverent mind of Newton were so irresistibly demonstrative of Divine power and wisdom, to the minds of others are only indicative of a vast necessity, which, unintelligent in its character, is by no means to be considered perfect in its working. And this antagonism of opinion, of ancient date, continues to live, and even to develop itself with clearer prominence than ever, in our present modes of thought.

According to the modern school of scientific materialists, the planetary and cosmical order is sufficiently explained by the law of gravity. It is simply the necessary result of this law, beyond which, as an explanation of the universe, we are not competent to go. This mode of explanation, if not distinctly announced by Laplace himself, has sought confirmation in the tone of his reasoning in different parts of the *Système du Monde*, and especially in his famous cosmogonic hypothesis. Laplace certainly discarded all notion of design in connection with the planetary mechanism as unphilosophical, and even ventured to point out in one instance, in regard to the motion of the moon, how it might have been, for the bestowal of light, more advantageously arranged.*

M. Comte has however outstripped his master, and declares the inconsistency of astronomy not only with the doctrine of final causes, but with every idea of religion. He ridi-

* *Système du Monde*, book iv. chap. v. p. 266.

cules the grand sentiment of the Psalmist with which we set out, and pronounces that to minds "early familiarised with true philosophical astronomy, the heavens declare no other glory than that of Hipparchus, of Kepler, of Newton, and of all those who have aided in establishing their laws." "No science," he says, "has given more terrible shocks to the doctrine of final causes than astronomy. The simple knowledge of the movement of the earth must have destroyed the original and real foundation of this doctrine—the idea of the universe subordinated to the earth, and consequently to man. Besides, the accurate exploration of our solar system could not fail to dispel that blind and unlimited admiration which the general order of nature inspired, by showing in the most sensible manner, and in a very great number of different respects, that the orbs were certainly not disposed in the most advantageous manner, and that science permitted us easily to conceive a better arrangement by the development of true celestial mechanism since Newton. All the theological philosophy, even the most perfect, has been henceforth deprived of its principal intellectual function, the most regular order being thence consigned as *necessarily* established and maintained in our world, and even in the whole universe, by the simple mutual gravity of its several parts."*

The grounds on which we rest the doctrine of final causes, and on which we consider it wholly untouched by the discoveries of science, have already been sufficiently explained. All, therefore, which demands our present atten-

* Comte, *Philosophie Positive*, tome ii. p. 36-38.

tion in this famous classical passage of atheism is, the assertion of the necessity and explanatory sufficiency of the law of gravity. Have we any right to regard this law as necessarily existent? Would it explain the phenomena in question even if it were?

Now, so far from our having any right to regard the law of gravity as necessarily existent, the truth is, that it is a mere assumption to speak of this law as existent by itself at all. We know the law *in* certain phenomena—*in* those orderly manifestations of which we have been speaking. It is the expression of the relation of these phenomena, but nothing more. It is the name by which we generalise and hold before our mind the action of these phenomena, but nothing more. To regard it for a moment, therefore, by itself, as a necessary power or property, to whose operation we can conceive the cosmical order to be owing, is simply to impose upon our imagination by a fiction; and if it is not so regarded, it amounts to nothing; it explains nothing. It simply assigns for the fact of the cosmical order, the *fact;* while yet our reason imperatively demands an explanatory origin of this fact.

But even if we allowed the necessary existence of gravity, it would not explain the whole order of phenomena before us. Even if we granted it to be an independent property working in matter, the position of the materialist would not be made good. So far, indeed, it may be admitted, according to the Laplacian cosmogony, that the simple operation of gravity would account for the successive formation of the planetary bodies, and their motion round a common centre;

yet how much would this still leave unexplained! Given the nebulous mass and the force of gravity, it is conceivable that, under the continued action of this force, the mass would be broken up and condensed into separate parts, each taking a necessary position and assuming a necessary motion. But, as has been urged, whence the existence of the nebulous mass itself? Whence the peculiar character which enabled it to separate and contract in the fitting way, and in no other? Whence the determinate velocity of the primitive movement, destined to such results, and no other? Whence, particularly, certain phenomena which do not lie in the plane of the planetary movements, nor proceed in the same course, although, according to the Laplacian view, all the generated motions must lie in the same plane, and be in the same direction?* To such questions the theory gives no answer. Gravity, therefore, even if admitted to be the cause of the planetary order so far, entirely fails to account for that order as a whole. Even if necessary, it is inadequate as a source of explanation.

In truth, and in conclusion, the Laplacian cosmogony, while interesting as a speculation, and serving to point, as by a venturous aim, the path of knowledge beyond the existing order of things, is yet, no less than any other cosmogonic theory, wholly worthless as a final explanation of things.

* When Laplace proposed his hypothesis, it was believed that not only the planets, but their satellites, all moved in the same direction, from west to east; "but since that time," says Sir D. Brewster, "all the satellites of Uranus have been found to move in an *opposite* direction; and Mr Hind has very recently found that the satellite of Neptune also moves in the opposite direction; thus proving that the hypothesis is utterly incapable of explaining the celestial motions."—*More Worlds than One*, p. 122.

To suppose it for a moment to be such an explanation, were not merely to exalt man to be the interpreter, but the God of nature. It were to constitute his proud dreams the measure of existence in the most daring sense, and verily, with Comte, to make the heavens reflect his glory. The highest, which is also the most reverent reason, at once shrinks from and contradicts such pretensions. It allows the speculation for what it may be worth, but utterly disallows it as a final efficient explanation. Here, as everywhere, we can only rest in an original self-subsistent Mind, in which the whole cosmical order lives, and from which it ever proceeds. This, the conclusion in which the great intellect of Newton rested, is that which the common reason universally demands, and in which alone it can find satisfaction evermore.

§ II.—CHAPTER II.

STRUCTURE OF THE EARTH.

DESCENDING from the contemplation of the celestial order, in the composition of which our globe is only an insignificant element, we turn our attention to the massive structure of that globe itself. We carry our illustrative survey from the vast regions and unnumbered worlds, lying all around us in space, and with which we are only enabled dimly to converse, to the bosom of that familiar earth on which we dwell, and which everywhere invites our inspection.

We are prepared to trace order here, as in the far-off regions we have been traversing. To the untutored eye, the mass of our earth may seem a mere vast conglomeration, even as the heavens seem a mere mazy dance of sparkling lights ; but as science has disclosed the magnificent system of the one, so has it unfolded the special structure of the other. As in the heavens we still read in the blaze of modern astronomy the glory of God, so in the crust of the earth do we read, in the light of modern geology, the impress of Divine power and wisdom. As we confine our

attention here to the massive construction of this crust, a few words will suffice to bring before us the facts which the subject involves.

The component rocks of the earth are divided into two great classes—stratified and unstratified. The latter represent the oldest, and, so to speak, the original material of the earth. They constitute its solid basement. The foundations of the structure are laid in granite. The hard and agglutinated character of these rocks favours the supposition that they were originally in a state of fusion. There cannot, at least, be any doubt that they are of igneous production. Their unworn and angular crystals clearly point to such a mode of production.

The stratified rocks, in all their varieties, present different peculiarities of formation. Those which lie immediately above the unstratified granitic mass, closely resemble the latter in character: they are in fact composed of the same constituents, different only in the form and proportion in which they are aggregated. Their crystalline texture betrays the same fiery agency which discovers itself in the parent rock. At the same time, they bear marks of distinctive origin. Their crystals are worn and abraded by the action of atmospheric and aqueous influences. Yet the igneous character is here still predominant; and, as might be expected, in the fire-locked embrace of these primary rocks there is to be found no trace of organic existence.

Above what we may call this hard and unfossiliferous basis, the fossiliferous rocks rise in an ascending series, comprehending various systems which geologists have grouped

into three great periods or epochs, successively called *Palæozoic, Secondary,* and *Tertiary.* The Palæozoic group, which is next in age to the metamorphic rocks, comprehends the vast systems of the lower and upper *Silurian,* the *Old red sandstone,* and the *Coal-measures.* The crystalline texture of the previous rocks disappears, save among the lowest of these strata, and a clayey or sandy texture takes its place, discovering the more powerful working of those atmospheric and aqueous influences which we have mentioned. Here, also—as the name of the group implies—in the Llandeilo flags of the lower Silurian, we find the first traces of organic being, which henceforth multiply, in endless and marvellous forms, in the onward course of the earth's growth. In the great carboniferous system we perceive in a very large degree the operation of a further influence in the formation of the earth's crust—the submersion and depression, namely, of organic remains. This, in the ascending history of our globe, is one of the most extensive of all the causes contributing to the earth's formation, in respect not merely of vegetable, but also of animal remains. The former, it is well known, are the peculiar ingredient of the vast coal-measures. In them we behold the deposition of the enormous vegetation which, in the carboniferous era, must have overspread the earth—vegetation in comparison with which, it has been said, the existing jungle of the tropics is mere barrenness.

In the secondary period we have, as in the Palæozoic, three great systems, the *New red sandstone,* the *Oolitic,* and the *Chalk*—the *Oolitic* being especially remarkable as the era of

those gigantic reptiles, whose strange and fearful forms at once amaze the ignorant and interest the curious.

With the tertiary period—with whose subdivisions, as laid down by Lyell, and generally accepted by geologists, we need not here concern ourselves—we approach our own era. We meet with animals of dimensions, indeed, far exceeding any with which we are now familiar, but in structure allied to existing species. We are carried forwards to an arrangement of physical conditions not differing widely from the present.

Such is a brief statement of the successive materials, so to speak, which compose the structure of the earth. Imperfect as it is, it is sufficiently complete for our purpose. In the mere facts thus disclosed, there seems already evidence of the order for which we seek. The actual structure of the earth, however, is something very different from that now suggested. It is not built up in the manner we have described, with the successive systems regularly laid upon one another, as they were progressively formed—the earliest everywhere lowest, and the latest highest. If such had been its actual construction, that construction would probably have for ever remained a secret to us. We could not have penetrated to its deep and hidden foundations. As it is, however, we are enabled to explore the whole structure, and find order and beauty in it, through means which might have seemed only destined to insure its destruction. Its foundations have been laid bare to us; while its later architecture lies equally exposed, not in mere disrupted fragments, but in vast and orderly terraces. The fact is, that in the process of

the earth's formation, during the long periods which had been employed in the gradual deposition of the various strata in the order of time we have described, those igneous agencies concerned in the production of the earliest rocks continued at work, breaking up and dislocating the incumbent strata, and forcing the granite upwards in all directions. To the same causes the different species of trap-rocks, piercing upwards in great veins, owe their elevation—causes which we still see in some degree active in our volcanoes. Whatever theory may be held as to the special intensity of these causes in the past periods of the earth's history—whether we adopt a catastrophic or a uniformitarian hypothesis—the result is the same. The granite, which is everywhere the base of the earth's crust, has yet been elevated far above all the posterior strata. It is no longer merely the impenetrable foundation or central abutment of the rocky systems; but it stretches upwards in vast branches, forming, so to speak, a skeleton framework for the earth. Somewhat as the bony skeleton in the living body everywhere ramifies it, giving strength and consistency to all its parts, so the granitic framework pierces on all sides throughout the earth's crust, compacting and consolidating it into its present state. And even somewhat as the muscular tissues and folds of flesh overlie the bony skeleton, and find in it their ultimate points of support, so do the various rocky tissues, the successive folds of softer material, rest against the mountain masses. We must surely in all this trace evidence of special arrangement. "It is not," as Dr Chalmers has said, "from some matter being harder than others that

we infer design; but when we see the harder placed just where it is most needed, the inference seems irresistible." And in the present case it is surely impossible to contemplate the peculiar disposition of the granite in our earth, without recognising that so it must have been placed. The very terms which we are compelled to use in speaking of it, after the least theological fashion, imply so much. That so it is by any mere accident, is altogether inconceivable. The enormous agencies concerned in the elevation of the granite—could we have seen them operating—might have seemed merely blind and lawless; but the result is order, and we cannot help concluding that some presiding mind has been at work. The granite has been upheaved, it may be, by convulsive agencies of a magnitude and intensity far beyond any of which we have now experience; the superimposed strata have been rent, and tossed hither and thither. The vast process by which this was accomplished might have seemed mere wild confusion. But pierce and bore the earth in all directions, there is really nothing like confusion. The term is indeed unknown to science, and to no science more than to geology, immense and catastrophic, according to the most common opinion, as are the changes with which it has to do. Let the granite, for example, rise to whatever heights—let it tower in whatever alpine magnitudes—we never find that its proper, or what we might call its constitutional position, is altered: the foundations are still granite, if the granitic mass yet stretch in cleaving branches through the sedimentary strata, and far overreach their roof.

And even so of all the different strata over the diversified surface of the earth; they all of them lie, as we have mentioned, severally exposed,—characterising, in their distribution, different countries and localities. The old red sandstone and carboniferous systems of the palæozoic era, for instance, form the immediate platform of large tracts of our island. The oolitic system of the reptilean era marks its eastern seaboard, while the chalk extends on the south and south-east. The whole economy of the terrene architecture is thus laid bare. It is spread out for our inspection; but, while all the various depositions thus appear on the surface, there is no confusion in their relative positions. They are never found at random—one set of strata being now below and then above another set—but always occupying the same relation to one another. If we find, for example, the lower silurian formation exposed in Wales, it is everywhere found to rest directly on the granite; if we find the old red sandstone in Devonshire, it again rests on the silurian, and the carboniferous system again on it. We never find the silurian imposed on the old red sandstone, nor the chalk below the oolitic. A set structure is surely here in the clearest manner discernible. We cannot well conceive any higher idea of structure than just such a special distribution of parts,—the parts of the same character being always found in the same place, in relation to the others.

The order, indeed, which the mass of our earth discovers, is on a vast and comprehensive scale, which may not very readily fall in with our preconceptions or fancies. Man's

feebleness is apt everywhere not merely to limit, but to spoil his judgments, so that order is perhaps more easily seen by him in mere neatness and formality, than in the bursting and glorious fulness of Nature's own form. Could the crust of our earth, for example, have preserved that appearance of uniform regularity which would have followed from the continuance of the sedimentary strata in the successive positions of the order of their formation — had it been a granite nucleus surrounded, in the words of Dr Buckland, "by entire concentric coverings of stratified rocks like the coats of an onion," and could we have been cognisant of this regularity, it might, we dare say, have impressed many more than the actual structural appearance which it presents. The order in the one case might have seemed more direct and apparent than in the other. But as it is, it is undoubtedly a far more glorious order—the product of a boundlessly comprehensive Plasticity, moulding the most mighty and apparently lawless agencies to the most magnificent, yet most exquisite results, and the more perfect just as it may transcend our feebleness and awaken our wonder.

Apart from the disruptive movements of which our earth has been the scene, it would not have presented any of its characteristic and beautiful variety of hill and valley, of glen and stream. Its surface would have been a mere uniform level, without life or picturesqueness; its rivers mere sluggish canals; its whole aspect destitute of that interchangeable sweetness and grandeur, softer loveliness and rugged magnificence, which now makes it so glorious

a mirror of Power and Wisdom and Goodness. To the same causes obviously does it also owe its peculiar fitness as the abode of human life. For otherwise the metals, without some knowledge of which man has never been able to rise above barbarism, would have been for ever concealed in their native crypts. Coal would have been sunk at an impenetrable depth, which no eye could have seen, and no skill have reached. And where, again, would have been our oceans, with no vast hollows to repose in? But it is needless, and even absurd, to make such suppositions. We have only done so for a moment, in order to make it clear how the mighty agencies which have been concerned in the present structure of the globe, wild and convulsive as they may have been, have been directed by the most far-reaching foresight to purposes of human improvement and happiness. They were only the tools in the Divine hand for the construction of man's abode. Far from being, in any sense, interferences with the terrene architecture, they were the very means by which it has been built up into the special order, at once most beautiful and most appropriate for him.

In contemplating the great movements which geology reveals, it is important to observe further how completely dependent they appear. In those disruptive agencies, as well as in the various atmospheric, aqueous, and organic influences, under the operation of which the earth has assumed its present structure, it seems impossible that any one could for a moment find the ultimate explanation of the phenomena

presented. If there are minds content to linger among the ultimate harmonies of astronomy, which stand forth so palpably to the intellectual view, we cannot yet imagine any abiding by the final agencies of geology, as if they carried with them any self-sustaining or efficient energy. They appear in the highest degree to be simply instrumental, —the merely blind agencies of a creative and designing Mind.

§ II.—CHAPTER III.

COSMICAL AND TERRESTRIAL MAGNITUDES—DIVINE POWER.

In the two previous chapters we have dwelt mainly on the celestial and terrestrial structures, as evincing an intelligent First Cause. It is order, as such, we have been contemplating. We have glanced but slightly at the peculiar evidence which the phenomena both of astronomy and geology furnish of immense power concerned in their creation and maintenance. So striking and impressive, however, is this evidence, that it seems right to devote a brief chapter to its statement. The phenomena in question bring before us, more signally than any other, an all-powerful as well as wise Being.

It is of course obvious, according to our whole plan of treatment, that we do not present this illustrative evidence as a logical proof of the Divine omnipotence. We do not profess to find the infinite in the mere bewildering magnitude and duration of the finite. This was indicated already in our introductory remarks. Yet it deserves to be noticed, that the only conceivable way in which the infinite could be

exhibited and impressively set forth to finite beings, is by such an array of phenomena as the sciences of astronomy and geology unfold to us—namely, by an accumulated display of vast magnitudes and apparently interminable durations. If we do not amid such views logically reach the infinite, we are yet carried onwards to it, on the wings of an imagination which in vain essays to grasp the immensity of the fields of contemplation open to it.

The simple extent of the celestial space, briefly exhibited in our first chapter, is well calculated to fill our minds with vast ideas of Divine power. Looking out from beyond our earth, the sphere of observation extends immeasurably on all sides. Inexhaustible to the naked eye, it is equally inexhaustible when, by the aid of the telescope, we are carried into regions so inconceivably remote that the mind sinks utterly overwhelmed by the spectacle. Neptune circles round the sun at a distance of nearly three thousand millions of miles; the nearest fixed star (α Centauri) is seven hundred times farther removed; while the bright Dog-star, according to the parallax given to it by Professor Henderson, is almost four times farther off than α Centauri, or about eighty billions of miles! These distances, however, inconceivable as they are, are nothing to those of the nebulous clusters which people the more inaccessible tracts of space, whose light, it is stated, can only reach us in thousands and even millions of years.* There is, in short, no *limit* to creation. In the expanse of cosmical phenomena we have assuredly, there-

* Sir J. Herschel's *Astronomy*, § 590.

fore, the only visible type of the infinite that it was possible for us to possess.

If from the mere boundless expanse of the cosmical regions we turn to contemplate some of the special magnitudes and velocities with which they make us familiar, the attribute of power will perhaps display itself even more strikingly. Let the mass of our earth, possessing a diameter of about eight thousand miles, and of which we may be supposed to have some not indistinct conception, be taken as our starting-point. Enormous as it is, it dwindles into a mere point among the stellar magnitudes, and becomes even small beside its planetary companions. Jupiter is fourteen hundred times larger, and Saturn nearly the same size, encircled by a gorgeous envelope or ring which, it has been said, would enclose five hundred worlds as large as ours.* The mass of the sun itself is three hundred and fifty-four thousand nine hundred and thirty-six times that of the earth. It would not only fill up the orbit of the moon, but would extend nearly as far again. But this is as nothing compared with the mass of some of the stars. Who can conjecture the magnitude of a body which would fill the vast orbit of the earth? But the bright star in Lyra has a diameter which, it has been said, would fill even that orbit.† And among the nebulous stars some are supposed to be of even greater dimensions.

Let us think, then, of the force concerned in the movements of such enormous masses. A cannon-ball projected

* Dick's *Celestial Scenery*, p. 274.
† Harris's *Pre-Adamite Earth*, p. 145.

from the mouth of a gun moves at the rate of about a thousand miles an hour, which is the rate of the diurnal motion of the earth at the equator; but the velocity of the earth's motion round the sun is sixty-five times faster than this. "Jupiter, equal in weight to fourteen hundred earths, moves with a velocity of 29,000 miles an hour. The rate of Mercury is 107,000 miles an hour. The velocity of the comet of 1680 is estimated at 880,000 miles an hour."* The annual motion of one of the (fixed!) stars, 61 Cygni, has been computed at one hundred and twenty millions of millions of miles. How mighty and transcending is the power displayed in these celestial masses and movements! It is certainly quite impossible that the conception of an all-powerful Being could have been more impressively set forth to the human mind. For whatever limit is at length reached in such contemplations does not arise from the exhaustion of evidence, but from the feebleness of our mental capacity to grasp the phenomena presented to it.

The vast periods of geology, and the immense forces that must have operated in the formation of the earth, are eminently calculated to give us the same impression of an eternal and omnipotent Being. The data with which the science of geology furnishes us, are not, indeed, so indisputable as those furnished by astronomy. For while there are some who estimate the geological cycles by millions of years, there are others who strive to bring them within much narrower bounds; while there are some who recognise the agency of elemental forces in the past career of the

* HARRIS'S *Pre-Adamite Earth*, p. 148.

earth, of a magnitude of which we have now no experience, there are others who contend for a uniformity of those agencies with those presently existing. The character of the agencies employed, it is clear, must be estimated according to the different reckoning of the periods allotted to the work. On any special geological hypothesis, however, the data are sufficiently significant for our purpose. According to any admissible estimate, we find ourselves, in tracing back the progress of the earth's formation, contemplating not a succession of days and years, but of ages and cycles of ages. The epochs that must have elapsed since the first great stones of the terrene structure were laid, and while terrace after terrace was added to it, carry us back into the night of time, far beyond the most fabulous computations of History. We ascend into the past by steps that weary our imagination to keep in view.

Again, the power concerned in the production of the vast effects which we see around us would seem to be equally indubitable, whether we assume them to have been brought about by suddenly violent or by gradual action. On any tenable supposition as to the mode of the elevation of the Alps and the Andes to their present heights, we must surely recognise in such phenomena the agency of a Power, before which we can only bow in dumb and lowly reverence. Here, surely, we behold the doing of the Almighty—of Him before whom "the nations are as a drop of the bucket," and who "taketh up the isles as a very little thing."

§ II.—CHAPTER IV.

ELEMENTARY COMBINATIONS—CRYSTALLISATION.

BENEATH the architectural structure of the earth, there is an interior elementary structure of great interest and significance. The stones of the building are not merely disposed in an orderly and fitting manner, but in the composition of the stones themselves there is found an order of the most exquisite kind. The separate masses of matter are not only arranged; but matter itself, with which we have been hitherto only dealing in masses, presents a constitution of the most exact and definite character, highly illustrative of the Divine wisdom. As geology makes us familiar with the mechanical, or, as we have termed it, architectural structure of the earth, chemistry unfolds its elementary constitution.

Chemists reckon at present upwards of sixty elementary substances. This, however, is a merely provisional reckoning, liable any day to alteration. A hitherto hidden bond of identity may yet be discovered between many substances which now obstinately resist identification. It is found, in

fact, that only a comparatively small number of these substances enter, to any large and pervading extent, into the constitution of nature—viz., oxygen, hydrogen, nitrogen, carbon, and, among the metals, silicium and aluminium. Oxygen is considered by far the most abundant substance in the earth. United with hydrogen, it constitutes water; with nitrogen, and a comparatively small proportion of carbon, it makes common air; while it enters, at the same time, largely into every kind of rock in the crust of the earth. Carbon, again, is the main constituent of all vegetable and animal matters; and silicium, in nearly equal combinations with oxygen (making silica), is said to form the basis of about half of the rocks of the earth.

There appears to us to be something profoundly impressive in the contemplation of the few simple substances to which we can thus trace back all the multiform diversity of nature. How marvellous to reflect that the solid earth, the compact rocks, the limpid stream, and the clear atmosphere, the fields clothed with grass, and the valleys covered over with corn, are only the varied combinations of a few elementary ingredients! So plastic is Nature! Science strips off the glorious forms in which she is everywhere robed, and brings us into her secret laboratories. But surely this does not diminish, but only heightens, the impression of wonderful intelligence which she everywhere reveals. So exquisite did nature's forms seem to the Grecian mind, that a Divine Presence seemed to speak from all of them. Beside the beautiful there everywhere arose the spiritual. The Oread, the Dryad, and the Nereid, were the graceful

embodiments of the plastic Life, that seemed thus to animate the mountain, the forest, and the ocean; and, surely, intelligence is not less but more visible, that science shows us the few ingredients which, in different combinations, induce these diverse phenomena of nature. Although the mystery has been so far unveiled, and we can look far beyond the simple-hearted view of Paganism, yet we cannot get rid of the truth to which it dimly testified. We find ourselves among the last analyses of nature's processes, more impressively than ever in the presence of a living and presiding Intelligence.

This is in the highest degree evident, when we contemplate the special character of those elementary combinations with which chemistry makes us acquainted: for it is ascertained, not merely that all the great features and products of nature are compounded of a comparatively few elementary ingredients, but that these ingredients everywhere combine only in certain definite and unvarying proportions. They obey laws of the greatest simplicity and exactness, "which never change, and which govern the formation of compounds of all classes and descriptions." * Thus "water, however produced, always consists of oxygen and hydrogen, in the proportion of 8 parts of the former to 1 of the latter by weight. Chalk, whether formed by nature or by the chemist, yields 43.71 parts of carbonic acid, and 56.29 parts of lime. The rust which forms upon the surface of iron by the action of the atmosphere, is as invariable in its composition as if it had been

* FOWNES' *Chemistry*, p. 39.

formed by the most delicate adjustment of weight, by the most accurate manipulator, being 28 parts of iron, and 12 parts of oxygen. This law is the basis of all chemical inquiry."*

Where, again, the same elements unite, as they often do, to form different bodies, such combinations are always related as multiples. Thus, in the different compounds of nitrogen with oxygen, we find that with the same proportion of the former the latter unites only in the successive ratios of 8, 16, 24, 32, and 40. "There are no intermediate compounds whatever. And this law is perfectly general; whenever bodies combine in more than one proportion, a relation of this kind between the quantities concerned can be observed. It applies alike to elementary substances, and to compounds formed by the union of bodies themselves compound."† There may be an interruption in the series of numbers, or the relation of the numbers may not be quite so simple as in the case mentioned, but an exact numerical relation is found to underlie all compounds. So, in the gaseous state, bodies only unite according to exact measures or volumes, depending upon the wonderful connection between the specific weight of a gas or vapour and its volume. The volumes are always equal, or multiples the one of the other, and any extra quantity that may be present is sure to be left over when combination ensues.

It is impossible to conceive anything more grand and simple than the mode in which the infinitely varied processes of nature are thus carried on. By merely multiply-

* Hunt's *Poetry of Science*, p. 253. † Fownes' *Chemistry*, p. 41.

ing the proportion of one of the ingredients, the most diverse substances are produced from the same elements. Thus, in the case mentioned by us, and so often instanced for its impressive simplicity—the combinations of oxygen with nitrogen—the several compounds are well known to possess the most different qualities—a definite increment of one of the ingredients making all the difference between a virulently noxious poison and the breath of man's life. What an unerring providence and skill does this evince in the continual assortment of nature's elementary products! What power, save an almighty one, could, from the mere varying composition of the same few elements, produce all this wonderful diversity of result? What intelligence, save an infinite one, could order and preserve with such a nice adjustment the infinitely multiplied combinations so as not to interfere with animal life and happiness? What striking and beautiful alliances, moreover, thus pervade nature! Things apparently the most opposite are yet radically akin. The pleasant nutriment and the noxious poison are of the same parentage; the rude lump of charcoal and the glittering diamond are the same substance. Matter is truly kindred in all its forms; nature a vast brotherhood, confessing to the same Maker and the same Preserver.

But what perhaps especially claims our notice is, the numerical exactitude thus found to lie at the root of nature. In breaking up its rounded and beautiful forms, they are found to rest on the most strictly arithmetical basis. It is seen to be the most literal scientific truth that the "mountains are weighed in scales and the hills in a balance."

As in the mighty movements of the heavens we are dealing with the most rigorous measurements; so, in the minute and hidden movements of matter, the great discovery of Dalton shows us to be equally dealing with such measurements. Whether or not we are justified in concluding all that the atomic theory demands, the law of definite and multiple proportions which it serves to express remains indubitable; and in contemplating the constitution of matter, this leaves us, in the last resort, face to face with numerical order.

Whence, then, this order? Science has disclosed its character; what has it to say as to its explanation? It has expressed, under the name of chemical affinity, all that it has to say on this subject. Elementary combinations take place under the influence of an elective force, so described with reference to the special dispositions to union manifested by all ultimate particles. It is under the operation of this so-called force that the constant interchange and balance of nature's ingredients are alone preserved, and that its existing forms are maintained with such nice and unvarying discrimination. As we have, in the wide region of space, gravitation uniting all bodies, and drawing them to common centres, so we have the attraction of cohesion holding the masses of the different bodies together; and finally, chemical or elective attraction, serving by its occult power to give determinate character or form to every kind of material creation.* But, after all, science merely conceals its ignorance by such general expressions. The laws in

* HUNT'S *Poetry of Science*, p. 262.

question are simply the last reductions of its persevering research; and so far from their furnishing any adequate explanation of the phenomena, they imperatively claim themselves to be explained. It is only, according to our whole argument, when we recognise in these general laws the operative modes of a Supreme Intelligence, that we reach a satisfactory meaning in nature, or an adequate explanation of its order.

There is a further order of inorganic matter peculiarly mathematical in its character, and well deserving our attention before proceeding to higher illustrations of our subject —that, namely, which is expressed in the beautiful and well-known phenomena of crystallisation. If, among the last results of chemistry, we find ourselves in the region of numbers, we here become conversant with the exact forms of geometry. Stones and minerals we are familiarly apt to regard as not possessing any definite shape and structure—an idea which lies with somewhat vitiating force at the bottom of Paley's famous comparison of the stone found upon the heath, and the watch. In fact, however, there are few things so exactly defined as simple minerals; and this not only in their external figure, but peculiarly in their interior and most hidden structure. Crystallisation, which is the ordinary state in which a great number of the substances of the earth are found, is nothing else than a regular geometrical form, accompanied by and dependent upon a regular structure. It has been well described to be a "peculiar and most admirable work of nature's geometry;" and so minutely and elaborately has nature wrought her geometrical patterns, that they are

found to reappear after the most minute subdivision. Beneath the fixed variety of external or secondary forms which crystalline bodies assume, there is an ultimate or primitive form retained by the smallest particles of each crystal. Thus, to employ the illustration of Dr Buckland, "we have more than five hundred branches of secondary forms presented by the crystals of the well-known substance of carbonate of lime. In each of these we trace a five-fold series of subordinate relations of one system of combinations to another system, under which every individual crystal has been adjusted by laws acting correlatively to produce harmonious results." Again, he adds, "Every crystal of carbonate of lime is made up of millions of particles of the same compound substances having one invariable primary form—viz., that of a rhomboidal solid, which may be obtained to an indefinite extent by mechanical division." * Some, as Professor Moh, reckon *four*, and others *six*, of these primitive crystalline forms.

It is needless for us to dwell upon the abundant theistic meaning which such phenomena present. The only conception which we can have of crystallisation, the definition by which alone we can express it, indicates, in the clearest manner, the working of intelligence. The geometric stamp is impressed on the minutest particle. The die is inwrought beyond the furthest process of cleavage or mere mechanical division. Shiver the crystalline mass as we may, the figure still lives. Where form is so deeply and curiously impressed, we must surely recognise a Former. Nature's "admirable geometry" irresistibly points to nature's great Geometer.

* Buckland's Bridgewater Treatise, pp. 576, 577.

§ II.—CHAPTER V.

ORGANISATION—DESIGN.

We have been hitherto tarrying amid the comparatively simple and general phenomena of inorganic matter. By degrees we have advanced from the most simple and comprehensive to the more special and definite laws which mark the inorganic world. We have contemplated the vast and beautiful cosmical order subserved by the law of gravitation, and the general laws of motion; the structure of the earth in its apparently irregular, yet most orderly flights of architecture—the constitution of matter, revealing relations so exact, and a higher and more refined law of kindred or elective attraction. We have further observed the regular geometrical forms exhibited in crystallisation—no longer merely chemical compositions, but symmetrical arrangement. Our illustrations have been thus of a progressive character. Material order has been contemplated in an ascending series of complexity, from the ruder form of mere mechanical adjustment, to the higher forms of chemical affinity and geometric adaptations.

Crystallisation is the most perfect form assumed by inorganic matter. It is the highest order we reach among inorganic phenomena. There are, however, far higher, or at least more complex and impressive, modes of order presented to us in the material world, and bearing, therefore, as they have been always supposed to bear, with a special force upon the illustration of our subject.

Clearly marked as is the highest kind of inorganic order which we have considered, it is yet, so to speak, a mere outward order, proceeding from external junction of parts. It is the result of force from without, and dependent upon the direction and degree of the compulsory application. On the first view of organic phenomena, we are struck with their essential difference in this respect. We contemplate no longer merely a combination of outward relations, but a product of inward forces. The material object is no longer merely, as even in the case of the crystal, the result of aggregation, of the external juxtaposition of particles; it is a living production forming itself from within. A new power is seen stirring in matter—a power not only of selection or of adaptation, but of assimilation, and, moreover, of reproduction. Inorganic matter, it has been well said, only finds, organic makes, what is added to its structure; recasting the inert substance, and exhibiting it in new unions, not of binary merely, but of ternary and quaternary combinations. The inorganic changes that on which it acts chemically; the organic vitalises, and imparts to the matter which it vitalises the power of acting in the same way on other substances. "This is the end and object of that series

of functions which, beginning with absorption, conveys the absorbed matter through the stem into the leaves, then subjects it to a process of exhalation, submits the rest to the action of the atmosphere, conveys it back into the system, elaborates it by secretion, and ends in assimilation. The plant is also generative. The inorganic mass can only increase by cohesion, by agglomeration from without. But the plant 'hath its seed in itself.' It exists in generations. Besides vitalising that which is necessary to the conservation of each of its own parts, it is endowed with the power of giving existence to a new whole, and of providing the germ with the nourishment necessary for it, in order to commence its independent being." *

These two attributes of assimilation and reproduction mark off and determine organic matter, in its lowest forms, from inorganic. They are the distinctive attributes of life in its feeblest developments. Our knowledge of life begins with them; and beyond such manifestations of the vital element—unsearchable in its hidden depths—our knowledge will probably never reach. Whenever matter is found to possess these properties, in contradistinction to the mere properties of chemical attraction or crystallisation, it is said to be organised. If we inquire more particularly for a definition of organisation, that given by Kant seems to be acknowledged to be the best. "An organised product of nature," he says, "is that in which all the parts are mutually means and ends." It is not only, it will be observed, the idea of dependence among the parts which is here expressed; this

* Harris's *Pre-Adamite Earth*, p. 166.

would not form an advance beyond the formerly considered phenomena of matter. There is a beautifully coherent dependence between the several particles of a crystal. But the definition of Kant expresses further an adjustment or dependence between all the different parts of an organised body, so as to subserve the definite purpose of maintaining the whole body; and not only so, but the further idea that the maintenance of the whole is essential to the maintenance of any of the parts. It expresses, in short, the fact of a constantly subsisting relation between all the parts on which the subsistence of the whole depends. Such an interacting relation does not exist between the several parts of an inorganised body. We can, on the contrary, break up a crystal, as we have seen, even indefinitely, without destroying its primitive constitutive form. But let us take to pieces a plant, and, destroying the living relation between the parts, we destroy the organism. Organisation, in its simplest appearance, presents, therefore, a more complex and delicate—so to speak—a more subtle and essential species of order than any which we have hitherto contemplated.

In this mere fact of organisation furnishing us with a farther and more refined example of order, we have an additional illustrative evidence of Divine intelligence. We recognise, with impressive force, the artist, in the higher specimen of art before us. To the query, Whence? which immediately arises here, as in the contemplation of all order, we are carried, in answer, irresistibly back to a supremely intelligent Will.

But is this all the theistic inference impressed upon us in

the contemplation of organic phenomena? Is not design in some sense peculiarly present in such phenomena? Physiology has been commonly supposed to be the special sphere of the doctrine of final causes, and its study held to possess a special interest and value in this respect. It will be well to set clearly before the reader the distinctive relation of this branch of the illustrative evidence to that presented by the simple phenomena of inorganic matter, especially as this relation has not always been apprehended in a just and discriminating light.

First of all, then, it seems undoubted that the phenomena of organisation do possess a certain peculiar impressiveness in regard to the theistic argument. Merely as examples of a higher and more curiously related order, they are, to many minds at least, peculiarly suggestive of creative intelligence. The elaborate texture and delicately-wrought colouring of vegetable forms, or again, the manifold and complex felicities of animal structures, may be conceived more vividly pregnant with the idea of design, of wisdom concerned in the result, than even the most perfect and mathematically regular combinations of inorganic matter. In this view Paley's often-impugned comparison—the boldly-struck key-note of his delightful work—may be so far justified. Taking the stone gathered from the heath on the one hand, and the watch on the other, there can be no doubt that the absolute contrast which he institutes between them is not to be defended. The stone is by no means destitute of those marks of workmanship which we recognise so immediately in the watch; and to the inquiry, "how the stone came to be there?" these

marks or characters, on examination, furnish an answer no less decided than the special adjustment of the several parts of a watch does as to its origin. Supposing the stone were a crystal, we have seen how skilfully configured is such an inorganic product; supposing it only a rude mass of sandstone, without symmetry of form or beauty of lustre, it yet appears, in the light of Dalton's great discovery, to be an exquisitely-arranged compound; and its special composition, whatever that might be, would be full of reply as to its origin. Paley's comparison, therefore, fails when pushed to the extent which he has implied; but, when used as merely serving to bring before the popular mind a more impressive exhibition of design, it is sufficiently valid. A watch, with its complicated mechanism of wheels and pulleys and springs, causing a definite motion in a definite time, is apparently the result of greater skill than any mineral composition, however exact. So at least it would doubtless seem to most minds. In the same way, any flower or animal structure of peculiar delicacy and utility may be thought to speak of God more plainly than even the most beautiful and elaborate crystalline structure.

But farther than this—beyond such a higher utility in the way of popular illustration—we cannot admit that organic phenomena by themselves exhibit any peculiar theistic meaning. They express the inference of design more conspicuously, but this is all. This, we imagine, is incapable of being disputed, on reflection. At the same time, it appears to us that considerable confusion and inconsequence of thought prevail upon this subject even among

some of our highest scientific thinkers. The relation of the doctrine of final causes, in its fundamental theological import, to the special scientific application which has been made of it in physiology, is not apprehended with sufficient clearness; and a certain measure of doubt has been thus allowed to rest on the subject, which seems to us perverting, and even fatal, in reference to the general principle. Dr Whewell, for example, has observed: "It has appeared to some persons that the mere aspect of order and symmetry in the works of nature—the contemplation of comprehensive and consistent law—is sufficient to lead us to the conception of a design and intelligence producing the order and carrying into effect the law. Without here attempting to decide whether this is true, we may discern, after what has been said, that the conception of design arrived at in this manner is altogether different from that idea of design which is suggested to us by organised bodies, and which we describe as the doctrine of final causes. The regular form of a crystal, whatever beautiful symmetry it may exhibit, whatever general laws it may exemplify, does not prove design in the same manner in which design is proved by the provisions for the preservation and growth of the seeds of plants and of the young of animals. The law of universal gravitation, however wide and simple, does not impress us with the belief of a purpose, as does that propensity by which the two sexes of each animal are brought together." *

There is, according to what we have already said, a certain measure of truth in this passage. The law of gravitation

* *Indications of the Creator*, p. 130.

does not impress us with the belief of purpose and design in the same degree, perhaps, as does that "propensity by which the two sexes of each animal are brought together;" but surely there is nothing altogether different in the idea of design in the two cases. It may be, that in the one case the idea presents itself to our sensuous observation more vividly, and is therefore entitled to guide us in our scientific researches into physiological relations, in a way that would be apt rather to mislead than assist the astronomer in his researches among the heavenly bodies. Design, in short, may not be with the astronomer, as with the physiologist, an appropriate principle of discovery. The former does not take it with him directly as a guide. The lower principle of mere sequential induction sufficiently serves his purpose. Yet if the higher principle be a reality and not a fiction, it must meet the astronomer equally in the end. He must ascend to it. He cannot rest, according to our whole previous reasoning, in the mere relation of sequence with which he sets out. The physiologist, on the other hand, may be said to start with the principle of design in possession, as a clue of discovery; for the phenomena with which he deals are no longer merely sequential, but teleological. They express themselves not only as related, but as related after the special manner of means and ends. The principle of design has therefore, it may be granted, a special application to these phenomena. So at least it has been maintained by many of our highest physiologists, and with apparent justice. Whereas in the one case it is only the final answer to the inevitable inquiry,

Whence? in the other it is present from the first, everywhere suggesting the inquiry, Why?

Yet it must never be forgotten that design is only thus present in the latter case, because found in all cases, in relation to one class of phenomena as well as to another—inorganic as well as organic—to establish itself as the only final principle of explanation. It is only possibly present as a scientific guide, because admitted as a theological principle. It is only in the light of the ultimate rational necessity which finds Mind everywhere in nature, that design, or the operation of Mind, can be especially maintained in organic phenomena. This follows in the clearest manner from the whole basis of our previous reasoning, and is indubitable on the simple ground, that nature in no case of itself can gave us Mind, but only reflects it in the mirror of our consciousness. And assuredly there is no rational basis on which we can conclude Mind to be thus reflected in one set of natural phenomena and not in another. Now it is because the language of Dr Whewell leaves this, as it were, in doubt, that it appears to us objectionable. He puts aside the question as to whether the mere aspect of order and symmetry in nature is sufficient to lead us to the conception of design and intelligence; or, in other words, demands this conception in order to its explanation. He puts aside this question as one not necessarily affecting the special scientific doctrine of final causes; whereas, according to our whole view, it is one most vitally affecting this doctrine, and without a clear settlement of which, this doctrine cannot for a moment be consistently maintained.

The only theistic difference, then, in the phenomena now before us, consists in the more vivid impression of Mind which they give us. In the very conception of a set of organs related to one another as means to ends, we have intelligence directly suggested. The contrivance bespeaks a contriver, yet only a contriver adequate to the special result in each case. While here, therefore, we may be said to be brought more immediately into the presence of Mind, it may yet be doubted whether we are brought so near to the first or supreme Mind as among the general laws of astronomy and chemistry. The comparative value of the respective phenomena for the theistic conclusion may in this way truly admit of question; and we can easily understand how some minds feel themselves more directly borne onward to this conclusion in the ultimate region of inorganic order, than while merely tarrying amid the crowded and endless intricacies of organic contrivance.

The true view seems to be, that the study of the latter phenomena is more useful in educating and strengthening within us the ideas of Divine wisdom and goodness; the contemplation of the former, in carrying us backwards to a great First Cause. The element of intelligence, already lying at the root of the theistic conception, is set forth in clear and engaging brightness by the variedly curious and beautiful phenomena of organic nature; while, in the nature of the case, the evidence for the Divine goodness only emerges as we travel onwards to the facts of sentient organism.* The higher complicacy of physiological order stamps on our

* See subsequent chapter on "Sensation."

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minds more impressively the fact of the Divine wisdom; while the subserviency of this order to ends of happiness in the animal creation, brings before us the beneficence of the Designer.

Our illustrative evidence, while resting from the outset on the same logical basis, thus truly gathers force and comprehensiveness for our special conclusion as it proceeds. Setting out with the theistic conception in its most naked form, it clothes itself with the full attributes of that conception, as it expatiates over a wider and more diversified field of induction.

§ II.—CHAPTER VI.

SPECIAL ORGANIC PHENOMENA—VEGETABLE.

In entering on the wide and diversified field of organic contrivance, our sole difficulty is that of selection. So crowded is it with illustrations fitted to our subject, that volumes might easily be devoted to special sections of it; and in fact, there is no other department of our evidence that has received such ample and varied, and, we may add, such skilful treatment. The work of Paley alone has made all familiar with its interesting details; and, conceived as this work is throughout in so fine a vein of homely English sense; rich with the light of a meaning everywhere clear and impressive, if not highly consecutive or profound; written, moreover, with such inimitable grace and felicity of style,—it seems as if it were at once presumptuous and useless for us to enter upon ground which he has traversed with such fascinating success.*

* The Natural Theology, and in fact the general works of Paley, have of late somewhat lost the distinction they once enjoyed. This is undoubtedly owing to their marked deficiency in philosophic depth and comprehension, which leaves the reader so often unsatisfied, while yet pleased with their admirable clearness and sense. With an exquisite tact and homely intellect unrivalled, Paley was certainly no philosopher; and it is needless now to urge his claims in this

We are only led to do so from a conviction of the too obvious gap and imperfection which would otherwise be left in the course of our illustrative evidence. The knowledge of what has been already so fully accomplished in this department, will at the same time lead us to dwell upon it as briefly as we can, consistently with the necessities of our plan.

The two great characteristics of organic phenomena, in their lowest forms, we have, in the last chapter, pointed out to be assimilation and reproduction. The plant, down to its least developed specimen, exhibits these properties in contradistinction to any specimen of inorganic matter. Organisation analysed to its finest point—the minute cell, which it requires the highest powers of the microscope to detect—is marked by a forming power, quite distinct from anything in the inorganic creation. While the inorganic, at the highest point of development, is, as it has been said, a mere carrier of force, the organic is essentially a centre of force.

It is deserving of notice how complete is the structure which the microscope reveals in the elementary cell. Reaching to the rudimentary source of organisation—the hidden workshop, may we call it?—of the beautiful forms of life

respect. What he saw, he saw with a precision, and could express with a force and lucidity unsurpassed by any writer; but, for the most part, he not only did not see far into the deeper bearings of his subject, but there does not seem to have been any desire in his mind to do so. It will not, however, be a good sign of British thought if the works of Paley ever come to be generally depreciated. Types as they are of that healthy sobriety, tolerant temper, and quiet unobtrusive piety, which have hitherto distinguished the highest products of British theology—characteristics which, in the present day, we may well pray God it may not lose—their study can never fail to be highly advantageous to the Christian student, and to reward him with an increase of strength and manliness.

that teem all around, we are here, as everywhere, in the presence of order. The forming hand appears in the most signal manner, although we cannot trace its action, save by the delicate scrutiny of the microscope.

The general process of assimilation or nutrition in plants is of a highly interesting description. The various organs concerned in the process—the root, the stem, and the leaves —are all so many structures of the most exquisite delicacy and beauty, furnishing, in their study, a continued illustration of the Divine wisdom. We cannot now, however, dwell upon the simple construction of these organs. Their functions, in the discharge of the nutritive process, are for our object even more interesting; and to the consideration of these, therefore, we readily pass.

The root at once gives stability to the plant in the soil, and, by the fibrils which it sends forth in all directions, collects materials for its food. For this latter purpose, the fibril roots, with the main root itself (caudex), are provided with soft porous terminations, called spongioles, from their peculiar efficacy in imbibing the surrounding moisture. When the moisture, holding different matters in solution, has been absorbed, it ascends through the stem—by modes which vary, and which are not yet in all respects thoroughly understood—to the leaves, where it is partly exhaled, and partly undergoes an important chemical change, rendering it fit for becoming assimilated. The leaves are the peculiar seat of what has been called vegetable digestion, though the entire process of this, and even the nature of the action

of the leaves, are still involved in considerable obscurity. It is certain, however, that during the day, and pre-eminently during bright sunshine, they are ceaselessly inhaling from the atmosphere carbonic acid, decomposing it, appropriating and assimilating its carbon, and exhaling its oxygen. It is, indeed, believed that during darkness this process is inverted; that oxygen is absorbed, and combined with waste or superfluous carbon, and carbonic acid exhaled; but still we know with certainty, from its own continued increment, that the plant appropriates more carbon than it rejects; that it therefore removes from the atmosphere more carbonic acid than it throws out into it; and thus that the permanent influence of these changes upon the atmosphere is in the highest degree favourable, the assimilating functions operating much more powerfully to purify than the respiratory to vitiate it. Plants are thus, in contradistinction to animals, the great conservators of atmospheric purity.

The sap, strengthened and enriched in the laboratory of the leaves, is sent back from them to the various parts of the plant for assimilation, for which it has now become exactly fitted. The same degree of uncertainty prevails regarding the precise character of the sap's descent as exists regarding its ascent. In dicotyledonous plants its main current is through the *liber*, or inner portion of the bark, but it also descends through the alburnum or most recently formed wood, through which, in the same plants, flows the main current of the ascending sap. In monocotyledonous plants its passage is through the innermost layer of

the structure, which is also the most recently formed.* The sap in its descent deposits the materials of fresh growth in the plant, as well as of the different well-known products,—gum, sugar, oils, and resin, so useful in domestic economy and in the arts. At the root, whence the nutritive process started, it terminates with imparting hardness and tenacity to the fibrils, and bringing matter to form new spongioles, while the old are gradually covered with an impervious cuticle.

It is impossible to contemplate this process without being impressed with its marvellous fitness and beauty. What a busy scene of orderly activity is thus every plant around us, from the noble forest-tree to the lowly lichen. And when we contemplate all the successive and intervolved adaptation conducing to the result, and again how the life, which is the result, alone gives impulse and continuance to the whole, we cannot, surely, doubt the Wisdom which

* It may be necessary to explain for some readers the general classification of plants into three great divisions—viz., Dicotyledons, Monocotyledons, and Acotyledons, the name being derived from the structure of the seed in the first two cases, which, in the plants of the first division, is composed of two cotyledons, or lobes enclosing the germ, or proper seed; and in plants of the second division, is composed of only one such cotyledon. Plants of the third division, such as ferns, mosses, and lichens, have no seeds properly so called, and hence, as their name imparts, no cotyledons. They are propagated by minute granular bodies called sporules, which are really nothing else than distinct plants, disjoined from the parents, and increasing by the simple addition of cellular tissue. The first and second classes are also respectively called Exogenous and Endogenous, from the peculiar formation of the stem in each case—its increase in the first class proceeding from external additions, in the second from internal development. New matter in the one case is formed by successive layers on the *outside*, in the other by successive layers on the *inside*, or towards the centre.

directs and controls so finely adjusted a series of phenomena.

The phenomena of vegetable reproduction are even more strikingly manifestive of creative design. Passing by the simpler facts displayed by the cryptogamous vegetation, we have in the reproductive organs of the higher classes of plants some very curious and complicated adaptations.

These organs are all embraced in what is botanically called the flower. Its parts consist of four series or whorls, as they are technically termed—1, the calyx; 2, the corolla; 3, the stamen; 4, the pistil. These are all now regarded as merely transformations of leaves, altered so as to suit the particular functions which each performs. They sometimes appear in the form of true leaves, without any marked modification. The calyx is the outer covering of the flower—the symmetrical cup in which it commonly rests. It is usually of the same green colour as the leaves, but sometimes also, as in the fuchsia and Indian cress, it is differently coloured. Its several parts are termed sepals. The corolla is the flower, popularly so called; its parts, which are sometimes distinct and sometimes united in various ways, are termed petals. "The petals are composed of a congeries of minute cells, each containing colouring matter and delicate spirals interspersed, all being covered by a thin epidermal coat or skin. The coloured cells are distinct from one another, and thus a dark colour may be at one part and a light colour at another. How exquisitely are the colours of

flowers diversified, and with what a masterly skill are their varied hues arranged! Whether blended or separated, as Thornton remarks, they are evidently under the control of a taste which never falls short of the perfection of elegance."*

The two latter or inner organs, upon which the production of seed essentially depends, show a peculiarly minute and delicate structure. The pistil consists of a hollow tube called the style, terminating at one end in a kind of spongiole named the stigma; at the other, in the seed-vessel or ovary. The stamens, which commonly, as in the rose, enclose the pistil, consist of a stalk or filament supporting a rounded oblong body called the anther, the cells of which are filled with the fine fecundating powder termed pollen, which is sometimes little more than visible to common inspection, but presents, under the microscope, multiplied distinct forms.

There is a singular and highly interesting numerical order found to characterise the relation of all these different organs of the plant to one another. "Thus, if a flower has 5 parts of the calyx, it has usually 5 of the corolla alternating with them, 5, 10, 20, &c., stamens, and 5, or some multiple of 5, in the parts of the pistil." And equally so when the parts of the calyx are 3—the numerical bases of 3 and 5 being the most generally prevailing in the vegetable kingdom, although the numbers 2 and 4, with their multiples, are also to be found. "It

* Balfour's *Botanical Sketches*, p. 148.

is worthy of notice," adds the author from whom we borrow these facts, "that flowers exhibiting 5 or 4, or multiples of these numbers, in their whorls, usually belong to plants having two seed-lobes or cotyledons, and which, when they form permanent woody stems, exhibit distinct zones or circles, and have separable bark; while flowers having 3, or a multiple of 3 in their whorls, present only one seed-lobe, and when they form permanent woody stems, exhibit no distinct zones nor circles, and have no separable bark. The numbers 2 and 4, or multiples of them, are seen also in the parts of fructification of flowerless plants which have no seed-lobes, such as ferns, mosses, sea-weeds, &c. The processes which project from the urn-like cases of mosses are arranged in the series 4, 8, 12, 16, 32, 64, &c. The parts of fructification of scale-mosses (*Jungermanniæ*) are in fours, as also the germs of some sea-weeds. Thus the numbers 5 and 4 and their multiples prevail among dicotyledonous and exogenous plants; the number 3 and its multiples occur among monocotyledonous or endogenous plants; while 2 and 4, and multiples of them, are met with among acotyledonous or acrogenous plants." *

The theistic conclusion undoubtedly receives confirmation from these and all other evidences of exact numerical relations in nature. They express very clearly the Divine plan everywhere stamped on it.

Let us now mark the reproductive process as subserved by these organs. Fecundation is the immediate result of

* Balfour's *Sketches*, pp. 137, 138.

communication between the stamens and pistil,—the former, which produce the pollen, being the active or male, the latter the receptive or female organs. In the great majority of cases the stamens and pistil are found on the same plant, the former overtopping the latter—an arrangement which gives the most simple mode of fecundation, by enabling the stigma readily to receive the falling pollen as it bursts from the anther. In order to secure this purpose more effectually, the stigma exudes a slightly glutinous fluid, to which the grains of the pollen adhere. These grains, whose manifold structure, as seen under the microscope, has been already noticed, have each two coats, one of which bursts when the grain is ripe, and the other, in touching the stigma, elongates itself into the shape of a slender tube, passing downwards through the style into the ovary, and so conveying to the germ the vivifying fluid. "The cells of the stigma are beautifully contrived to admit the passage of these tubes, as they are long, and extremely loose in texture, at the same time so moist and elastic as to be easily compressed when necessary. It is so contrived that the minute particles contained in the grains enter slowly to the ovary, as it seems necessary that the fecundating matter should be admitted by degrees. It is also necessary that the tube should enter the foramen of the ovule; and as the ovule is not always in a proper position to receive it, it will be found to erect itself or to turn, as the case may be, while the granules of the pollen grains are passing down the tubes." *

* *Vegetable Physiology*, p. 79. Edinburgh: Chambers.

In drooping flowers, such as the fuchsia—where it would be obviously no longer fitting that the stamens should exceed the pistil in length, as thereby the pollen would be scattered on the ground instead of reaching the stigma—the relation of the parts is found inverted in correspondence with the altered character of the plant. And, in fact, nothing can be more beautiful and impressive than the great variety of adaptations by which, in special cases, communication is secured between the pollen and the pistils. "In the common nettle the stamens have elastic filaments, which are at first bent down, so as to be obscured by the calyx; but when the pollen is ripe, the filaments jerk out, and thus scatter the powder on the pistils, which occupy separate flowers. In the common barberry, the lower part of the filament is very irritable; and whenever it is touched, the stamen moves forward to the pistil. In the style-wort (Stylidium) the stamens and pistil are united in a common column which projects from the flower; this column is very irritable at the angle where it leaves the flower, and when touched, it passes with a sudden jerk from one side to the other, and thus scatters the pollen. In the hazel, where the pollen is in one set of flowers and the pistil in another, the leaves might interfere with the application of the pollen, and therefore they are not produced until it has been scattered."* In Dicœcious plants, such as the willow, where the flowers are not only unisexual, but the stamen-bearing are on one tree and the pistil-bearing on another, the process

* BALFOUR'S *Sketches*, p. 152-154.

of communication is effected in some cases by the winds, but in other cases, after a more complicated and ingenious manner, by insects. The bee, while providing food for its young, is at the same time aiding in the dispersion of the pollen. The peculiar shape of some flowers—the Orchids especially—seems to form an attraction for certain insects which are helpful in the same office. One of the most remarkable examples of this insect-agency in the distribution of the pollen is furnished by the birthwort (Aristolochia). In this plant the "flower consists of a long tube in a chamber, at the bottom of which the stamens and pistil are placed, completely shut out from the agency of the winds. It is frequented, in its native country, by an insect which enters the tube easily, and gets into the little chamber. On attempting to get out, it is prevented by a series of hairs in the tube, which all point downwards. It therefore moves about in the little cavity, and thus distributes the pollen on the pistil, soon after which the flower withers and the insect escapes."*

When impregnation is completed, the other parts of the flower decay, whilst the "gravid seed-vessel" increases in bulk, till it becomes, under very diversified forms, what is called the fruit. All these forms, many of which are so familiarly known and useful, would seem to have one prime object in view, viz. the preservation of the seed. The production of this seed has been the great end of the process hitherto described; and, this end accomplished, the flower dies, whilst the energies of the plant are turned to the nurs-

* Balfour's *Sketches*, p. 158-159.

ing of the little embryo which it has left behind, and which is destined in its time to advance into new forms of floral beauty. "Nothing," adds Paley,* "can be more *single* than the design, more *diversified* than the means. Pellicles, shells, pulps, pods, husks, skin, scales armed with horns, are all employed in prosecuting the same intention."

When the seeds reach maturity, their dispersion is provided for in various interesting ways. In some cases the fruit falls without opening, and gradually decays, forming a sort of manure with the soil in which the plant sprouts. In other cases the seed-vessels open and scatter the seeds. "In the common broom, the pod, when ripe, opens with considerable force; so also the fruit of the sandbox-tree, and the balsam, which is called Touch-me-not, on account of its seed-vessel bursting when touched. The squirting cucumber, when handled in its ripe state, gives way at the point where the fruit joins the stalk, and the seeds are sent out with amazing force. The common geranium seed-vessels curl up when ripe, and scatter the seeds. In the case of firs, bignonias, and some other plants, the seeds are furnished with winged appendages; while in the cotton-plant and asclepias they have hairs attached to them, by means of which they are wafted to a distance." "The plant called Rose of Jericho becomes dried up like a ball, and is tossed about by the wind until it comes into contact with water, when its small pods open, and the seeds are scattered; and a species of fig-marigold in Africa opens its seed-vessel when moisture is

* *Natural Theology*, Knight's edit., vol. iii. p. 58.

applied." "In the dandelion, the leaves which surround the clusters or heads of flowers are turned downwards, the receptacle becomes convex and dry, the hairs spread out so as to form a parachute-like appendage to each fruit, and collectively to present the appearance of a ball, and in this way the fruit is prepared for being dispersed by the winds."*

The seed being deposited in the soil, the process of germination takes place under the influence of heat, air, and moisture. The embryo sends forth, in one direction, a number of fibrous threads, which fix the plant in the ground. The radicle, in short, becomes the root. The plumule on the other side elongates itself, rising into the air in the form of the stem, frequently accompanied by one or more cotyledons or seed-leaves, according to the nature of the plant.

And thus the great processes of nutrition and reproduction again proceed in the same varied and beautiful round, proclaiming the Wisdom which guides and which guards the whole.

We might add indefinitely to the force of these illustrations, by a consideration of the same processes as exemplified in the animal kingdom. In this field we might easily glean some examples of peculiarly elaborate and striking contrivance,† subservient to the production and preservation of those higher and more complex forms of life which here meet us. The numerous and intricate organs employed in diges-

* Balfour's *Sketches*, pp. 44, 172, 173, 174.

† The suckling the kangaroo, admirably described by Dr Whewell (*Indications of the Creator*, p. 123-124), is among the most remarkable of such instances for complication, and at the same time propriety, of contrivance.

tion, in the circulation of the blood, in respiration, and the exquisite order and regularity with which they perform their functions, are especially marked with instructive meaning in reference to our subject. As, however, according to our whole plan, we do not and cannot aim at a mere accumulation of instances which do not add some significance to our evidence, we pass onwards to those higher illustrations presented by the muscular and nervous phenomena, which are considered to be the distinctive characteristics of the animal kingdom.

§ II.—CHAPTER VII.

SPECIAL ORGANIC PHENOMENA CONTINUED—ANIMAL.

Bichat first clearly propounded the distinction between merely vegetable and animal life * which is now generally accepted. Besides the functions of nutrition and reproduction which the animal shares with the plant, the former is characterised by two special tissues, the muscular and the nervous, issuing in distinctive manifestations of vitality, higher than those to be found in the vegetable kingdom. It is doubtful, indeed, as formerly said, whether the separation thus marked out be clear and decided. We have certainly, among plants, at least the shadow of these higher vital developments which so prominently mark the animal creation, as in the phenomena of irritability in the Venus' fly-trap, the sensitive plant, and some others. In the former plant the leaves are marked by three projecting hairs, which, when touched, have the singular property of causing the leaf to fold upon itself, shutting in the insect which may

* Bichat's own language is *organic* and *relative;* but we prefer, for obvious reasons, the less technical, more readily intelligible language.

have caused the movement. The mode in which the leaves of the sensitive plant fold themselves together on the slightest touch is still more familiarly known. Remarkable as these movements are, however, the conclusion of botanical authorities, upon the whole, appears to be against the supposition of their being identical in source with similar movements in animals. "They are not dependent," says the Professor of Botany in Edinburgh, "on nervous and muscular power, as is the case in animals, but they seem to be caused by the greater or less distension of cells connected with the base of the leaves and of the leaf-stalks." *

The peculiar property of the muscular tissue is denominated *contractility*. It is simply the power possessed by the muscles of contracting or shortening themselves. This contractile power is observable in the lowest classes of animals, although they do not present any distinct trace of a fibrous structure. In the inferior zoophytes—such as the Infusoria, Polypi, Medusæ—the whole body seems to exhibit an incessant action upon the surrounding fluid, maintained by means of "very minute and generally microscopic filaments" called *cilia*, and which apparently serve in the case of these genera not only the purpose of progressive motion, but also of respiration, and of procuring a supply of food.† In the Radiata generally, however, no distinct muscles can be said to be traced, and their powers of movement are for the most part very limited.

As we ascend the scale of animal life we begin to observe the formation of fibres, at first irregularly dispersed through

* Balfour's *Sketches*, p. 131. † Dr Roget, Bridg. Treat., vol. i. p. 126.

the soft body, and then, as the organisation becomes more complex, collected into bundles, composing what are properly called muscles.* In many of the Articulata the muscular system is highly developed. Lyonet is said to have counted in some species of caterpillar not fewer than four thousand muscular bands; and the extraordinary weights which ants and beetles easily move, prove the muscular energy to be very powerful in these creatures. It is in the Vertebrata, however, and especially as displayed in the human body, that the muscular system has been most carefully studied, and is most familiarly known. And from this comparatively limited, but very adequate sphere, our illustrations will for the most part be drawn.

The bundle-form is one of the most remarkable characteristics of the muscular tissue. The compact bundle is found, on examination, to be composed of a series of lesser and lesser bundles, firmly bound together in sheaths. "The dilatation of the muscular fibres in thickness, which accompanies their contraction in length, would, if these fibres had been loose and unconnected, have occasioned too great a separation and displacement, and have impeded their co-operation in one common effect. Nature has guarded against this evil by collecting a certain number of the elementary fibrils, and tying them together with threads of cellular substances, thus forming them into a larger fibre; and, again, packing a number of these fibres into larger bundles, always surrounding each packet with a web of cellular tissue."†

* Dr Roget, Bridgewater Treatise, vol. i. p. 126. † Ibid., p. 130.

As muscular action is wholly the result of the contractile power possessed by the tissue, it is obvious that reciprocal sets of such muscular bundles as we have described are necessary to produce the varied and reciprocal motions of animals. As Paley* states and illustrates the fact: "It is evident that the reciprocal energetic motion of the limbs, by which we mean motion with force in opposite directions, can only be produced by the instrumentality of opposite or antagonistic muscles—of flexors and extensors answering to each other. For instance, the muscles placed in the front part of the upper arm, by their contraction bend the elbow, and with such degree of force as the case requires or the strength admits of. The relaxation of these muscles after the effort would merely let the fore-arm drop down. For the back stroke, therefore, and that the arm may not only bend at the elbow, but also extend and straighten itself with force, other muscles, placed on the hinder part of the arms, by their contractile twitch, fetch back the fore-arm into a straight line with the cubit, with no less force than that with which it was beat out of it. The same thing obtains in all the limbs, and in every movable part of the body. A finger is not bent and straightened without the contraction of two muscles taking place. It is evident, therefore, that the animal functions require that particular disposition of the muscles which we describe by the name of antagonist muscles. And they are accordingly so disposed. Every muscle is provided with an adversary. They act, like two

* *Natural Theology*, vol. i. pp. 104, 105; Knight's edit.

sawyers in a pit, by an opposite pull; and nothing surely can more strongly indicate design and attention to an end than their being thus stationed." To which Sir C. Bell in a note adds: "The muscles are antagonists certainly, but there is a fine combination and adjustment in their action, which is not illustrated by the two sawyers dividing a log of wood. The muscle having finished what we call its action or contraction, is not in the condition of a loose rope, but, on the contrary, there is always a perfect balance of action preserved between the extent of relaxation of the one class of muscles and the contraction of the other; and there is a tone in both by which the limb may be sustained in any posture that is willed."

The muscles are attached by tendons or sinews to the parts to be moved; and there is often singular contrivance shown in the mode in which these are made to act. The most obvious and simple mode of producing motion, would of course be to stretch the tendons in a straight line betwixt the parts to be moved. But this would not, in many cases, suit the convenience of the body. The muscles are, in consequence, found in positions whence they can only act on the movable object in an oblique manner, and with a corresponding loss of force, but, at the same time, with an increase of velocity, and a saving of muscular contraction highly advantageous. Muscles acting after this oblique fashion are often used in pairs, in which case the direction of motion is the diagonal line between them,—an arrangement which, in certain movements of the body, is pro-

ductive of a rapid and easy motion particularly desirable. The action of the chest in breathing is of this kind.*

In certain parts of the body, where mobility is especially requisite, a condensation of muscular fibres would have been especially incommodious. By a skilful provision, the muscles are in such cases placed at a distance, where their presence is subservient to the beauty of the corporeal outline; while they are, at the same time, by a special apparatus of long tendons, stretching like wires from a mechanical centre, brought within range of their appropriate sphere of action. It is in this way that the muscles which move the hands and feet are found respectively in the arm and the calf of the leg, instead of forming, as Paley expresses it, an "unwieldy tumefaction in the hands and feet themselves. The observation," he adds, "may be repeated of the muscle which draws the nictitating membrane over the eye. Its office is in the front of the eye, but its body is lodged in the back part of the globe, where it lies safe, and where it encumbers nothing." †

There are many other advantages connected with the use of tendons which have been carefully pointed out.‡ By their intervention the whole concentrated power of the muscular fibres is conveniently brought to bear upon any particular point where an accumulation of force is necessary. The action is upon the very same principle on which a number of men pull together at a rope, in order to influence by their combined strength a given position. By means of tendons,

* Dr ROGET, p. 132. † *Natural Theology*, vol. ii. p. 106.

‡ Dr ROGET, p. 134-135, to whose treatise we are here, and throughout this description, greatly indebted.

also, a change of direction may be imparted to the moving power, without any alteration of its place. Tendons are thus found, in numerous instances, "to pass round corners of bones, and along grooves or channels expressly formed for their transmission, producing the effect of pulleys." The trochlear muscle of the eye acts in this manner. It passes round a cartilaginous support and turns back, just like a rope round a pulley. By a similar mode of muscular action the lower jaw is pulled down, the moving power proceeding not from below but from above the jaw—rising, in fact, in the side of the face, and of course descending in the first instance, but, at a certain point, taking a turn and then ascending—which is the direction in which it could alone produce the appropriate effect.*

The peculiar configuration of certain muscles serves still further to show the design with which they are marked. In many cases "the fibres, instead of running parallel to one another, are made either to converge or to diverge, in order to suit particular kinds of movements; and we frequently find that different portions of the same muscle have the power of contracting independently of the rest, so as to be capable of producing very various effects, according as they act separately or in combination."† The muscle of the back, called the trapezius, is an example of this. Sometimes they radiate from a common centre, as in the delicate muscle of the ear-drum; and at other times they run in a circular direction, forming what is called an orbicular or sphincter muscle. In the membrane of the eye called the

* Paley's *Natural Theology*, vol. i. p. 116. † Dr Roget, vol. i. p. 135.

iris these two last-mentioned muscles are combined with beautiful effect. On the application of too much light, the circular fibres directly surrounding the pupil instantaneously contract, diminishing its size; while again, when more light is needed, the contraction of the radiating fibres, acting on the circular, serves as instantaneously to enlarge the pupil. The instinctive character of this balanced action (the will having but a slight and occasional control over it) especially evinces foresight; for thus alone does it respond with unerring precision to all the varying necessities and circumstances of the animal. A somewhat corresponding action of circular fibres with longitudinal, distinguishes the muscular coats surrounding canals of various kinds, such as the blood-vessels, and the alimentary tube; the former tending, by their contraction, to extend the canal and propel its contents—the latter, again, by their contraction, having a tendency to shorten it.*

One of the most general and remarkable characteristics of muscular action in the limbs remains to be mentioned. It takes place at what is called a mechanical disadvantage. The axis of motion is much nearer to the exciting force than to the resistance to be overcome. There is, of course, a great sacrifice of power in this way; but while this is compensated, on the one hand, by the special energy of the muscular exertion, on the other hand, velocity and freedom of motion (which are the great requisites in the animal system) are obtained in proportion to the mechanical disadvantage. "Strength is sacrificed," as Dr Roget observes,† "without

* Dr ROGET, vol. i. p. 147. † Ibid., vol. i. p. 141.

scruple, to beauty of form or convenience of purpose; and that disposition of the force is always adopted from which, on the whole, the greatest practical benefit results. Everywhere do we find the wisest adaptation of muscular power to the objects proposed, whether it be exerted in laborious efforts of the limbs and trunk; whether employed in balancing the frame or urging it into quick progression; or whether it be applied to direct the delicate evolutions of the fingers, the rapid movements of the organs of speech, or the more exquisite adjustments of the eye, or of the internal ear."

It were difficult, indeed, to conceive a more impressive display of design than is represented by all the varied and intricate action of the muscular system in any of the higher animals, and in the human frame especially. All is hidden from our view beneath the covering of skin which encases and protects the delicate machinery. But could we see within, and trace the unceasing play of muscular adjustment under any of our most common movements, nothing could be more wonderful than the spectacle exhibited. The movement of the eye in vision, of the ear in hearing, of the tongue and larynx in speaking, all depend upon relations of the nicest and most complicated description, whose operation, unceasing as it is, is at the same time unwearying. How wonderful the muscular endurance of the heart alone, which contracts "with a force equal to sixty pounds eighty times every minute, for eighty years together, without being tired!"* When the hand performs any common task—exe-

* *Animal Physiology*, p. 74. Edinburgh: Chambers.

cutes a piece of music, for example, or simply writes—how numerous the muscles brought into play, and yet how happily measured, definite, and wholly uninterfering their mutual action! "Not a letter," as Paley has well described the latter case, "can be turned without more than one, or two, or three tendinous contractions—definite, both as to the choice of the tendon, and as to the space through which the contraction moves; yet how currently does the work proceed! and when we look at it, how faithful have the muscles been to their duty! how true to the order which endeavour or habit hath inculcated!"*

The disposition of so many muscles in the human body (anatomists have given names to between four and five hundred), often so closely contiguous to one another, that they are found "in layers, as it were, over one another, crossing one another, sometimes imbedded in one another, sometimes perforating one another," yet all so perfectly arranged that they never obstruct or interfere with one another—this of itself surely furnishes evidence of design which it is impossible to resist. What, save prescient Wisdom, could have devised an arrangement at once so exquisitely intervolved, and so faultlessly harmonious?

In advancing to a brief consideration of the nervous system, we enter upon a sphere of illustration peculiarly significant for our subject. For the nerves are not, like the muscles, simply examples of organic contrivance; they are the seats of sensation, the media of animal conscious-

* *Natural Theology*, vol. ii. p. 113.

ness, in whose varied phenomena we find the appropriate evidence, not only of Divine wisdom, but especially of Divine goodness. In this chapter, however, we glance at the nervous system simply in its organic arrangement, as contributing, in the mere complicacy and order of its parts, to the force of our preceding evidence. The mental meaning, which everywhere underlies it, will immediately receive full attention.

The nervous, like the muscular system, is found, in the lower animal races, in a very undeveloped state. In the very lowest, indeed, including the Porifera (sponges); Polypifera (mushroom corals); Polygastrica (infusory animalcules); Acalephæ (sea-blubbers); and Entozoa (intestinal worms), no trace of it can be detected by the closest scrutiny. These animals are hence arranged by zoologists into a sub-kingdom by themselves, under the name of Acrita. It must not, however, be supposed that the neurine or nervous matter is really absent in these races. It is no doubt present, although it cannot be traced; not gathered into masses, nor even into threads, but probably diffused in imperceptible atoms through the whole of their very simple structure.*

In the races immediately above the preceding, the nervous matter is distinctly visible in the shape of threads dispersed through the body. They are hence arranged in a sub-kingdom, under the name of Nematoneura, the most interesting and important section of which are the Echinodermata, or star-fishes.

* Gosse's *Text-Book of Zoology*, p. 1.

In the Articulata we reach a further and very significant development of the nervous structure. It is no longer merely in the form of threads, but presents the first appearance of a spinal chord, with ganglions or nervous centres collected on it; that is to say, knots or swellings at regular intervals along it, from which the nervous fibres run. From the fact that these ganglions are, in the Articulata, regularly disposed along the main line or chord to which they are attached, it has been proposed to call this general division of the animal kingdom Homogangliata, as being a name more truly distinctive than the older and familiar one of Articulata. The varied and deeply interesting class of insects, as also the Arachnida (spiders, &c.), and Crustacea (crabs, &c.), are representatives of this great division.

In the Mollusca the nervous system does not advance. They are distinguished, Professor Owen has remarked, by the development rather of the vegetal series of organs, or those which are concerned in nutrition and reproduction. The nervous matter is in them also collected into ganglions; but these are no longer symmetrically disposed along a main line, but are unequally scattered throughout the body. "The principal mass of nervous matter takes the form of a thick ring or collar surrounding the gullet, whence threads are sent off in an unsymmetrical manner to other parts of the body; several ganglions being placed around the collar, and others dispersed in other parts, so as best to supply the most important organs."* From this unequal distribution of the

* Gosse's *Text-Book*, p. 193.

nervous centres in the races of this division of the animal creation, it has been proposed to apply to them the more definite and characteristic name of Heterogangliata.

It is only in the Vertebrata that we reach the fully developed form of the nervous system. Here we have a spinal chord, truly so called, not only with ganglionic knots distributed along it, but expanded at the summit into a collection of nervous matter, which gradually becomes of main significance in the system. To this terminal collection of nervous matter the general name of brain is given. In all the classes of the Vertebrata a brain and spinal marrow are present, but the brain especially is extremely diversified in size, and in the relation of its parts. It is composed of two hemispheres, respectively named the cerebrum or proper brain, and the cerebellum or lesser brain. It is by the full development of the former that the nervous system in the human species is distinguished. It extends so far back in man as to cover the whole of the cerebellum, while, in the lower vertebrate orders, the latter becomes always more apparent, till in reptiles and in fishes it is wholly exposed.

With this very summary description of the nervous system in the animal races generally, we will now look, for the sake of special illustration, a little more closely at its structure and operations in man, in whom it assumes its chief interest and importance.

The nervous matter in the human body presents the appearance of an elaborate and intricate trace-work running out to all its parts, from the vertebrate column and ence-

phalon. Comparatively dense and unformed in the immediate region of the central line or axis of the body, it branches off into more rare and distinct outline towards the surface extremities. When this matter, as exhibited in the brain, is examined, it is found to be composed of two different substances. The main substance, which is placed internally, is white-looking and of fibrous structure. A coating of grey matter, vesicular in structure, encloses the other, and gathers into large ganglionic masses at the base, where it constitutes, as we shall see, a special centre of nervous force. This two-fold material is found also in the spinal marrow, but in an inverted relation, the grey matter here forming the interior, and the white matter the exterior mass. The grey or vesicular matter is supposed to be the generating source of the nervous energy, the white or fibrous matter to form the lines of communication between the different parts of the system.

In the diversified operation of man's nervous system, we meet, first of all, with centres of nervous action, strictly corresponding to those found in the lower orders, viz., simple ganglions, distributed along the spine, or at least chiefly there. But we also, as might be expected, meet with higher and peculiar centres of such action in what are called the sensory ganglions, collected at the base of the brain, and especially in the cerebrum itself. From these respective centres emanates the whole varied and wonderful activity of human life.

To Sir Charles Bell we are indebted for the great discovery which has opened up the whole field of nervous

operation. He found that sensation and motion are dependent upon different sets of nervous filaments. The sensiferous filaments, stretching all along the surface of the body, are constantly receiving impulses which they transmit along the line to the different centres of nervous action, whence again proceed the other or motor set of filaments running to all the different parts of the body. These filaments start from distinct roots in the nervous column—the roots of the former being in the posterior, and those of the latter in the anterior, portions of that column. They preserve throughout their distinct character and quality, although in their ramifications they become inextricably intermingled. According to their function, the former set have been called afferent, as conveying impressions towards the centre; the latter efferent, as conveying the respondent movement from the centre.* We have thus, in the most simple form of nervous operation, three distinct organs, as it were — the afferent nerve, the ganglionic centre, and the efferent nerve. These together form an apparatus which has often been represented by the analogy of a voltaic battery. The impression communicated at the sensitive surface passes along the line of the afferent nerve to the central station, where it is not expended or thrown away, but, in virtue of its nature, acts upon the vascular structure of the ganglions, developing a motive force which issues along the efferent nerve to the parts originally affected. An act or operation of sense always tends to complete itself in this way. The stimulus passing inwards is reflected to

* Also esodic, or ingoing nerves; and exodic, or outgoing nerves.

the sentient surface whence it started, quickening there a movement of closer contact, or, as it may be, of repulsion towards the object of sensation. When we touch anything, we have thus a tendency either to grasp it more firmly, or to reject it, should there be anything in it disagreeable to the organs of sensation. Without one or other of these results the sensation has not completed its natural round. It has fallen short through its own original weakness, or the weakness of some of the organs; or, as is very commonly the case, in the ceaseless and complex play of the system, it has been interfered with by some opposing influence of greater power bearing on the same centre of nervous force.

The intimate union which is thus seen to exist between the nervous and muscular systems is deserving of notice. The action of the one always tends to pass into that of the other. The two systems are not only combined, but so combined, or rather inwrought, that the one everywhere presupposes and includes the other.

We have been speaking all along of sensation as implied in the nervous process; and so it is. But, in the very lowest forms of this process, that which we peculiarly mean by sensation does not emerge. There are, in other words, appropriate ranges of nervous action which transact themselves beyond the region of consciousness. Among these are the common functions of organic life—the action of the heart, of the lungs, and of the stomach. These, as well as sometimes also special motions of the limbs, are found, in a state of health, to proceed wholly irrespective of any conscious recognition or sensation properly so called. The

sense-impulses which have set them agoing do not, as it were, awaken, or realise themselves. And in this we may perceive a special mark of Divine wisdom; for how important is it that those functions upon which our daily health depends, should be thus secured from the distracting influences that would be otherwise constantly bearing upon them! How comparatively imperfect and unhappy would life be, did the respiratory or digestive processes incessantly claim our attention! As it is, these processes, proceeding in a separate round by themselves, minister in the most faithful and efficient manner to our daily maintenance and well-being.

Such simple reflex actions constitute in man, however, only the lowest circle of nervous operation. And even in regard to them there is so intimate a relation between the different parts of the system, that the processes which may be, and in ordinary cases are, transacted beyond the region of consciousness, yet very readily pass into it. For, according to the full law of nervous action, whose exposition we owe only to the most recent physiological labours, every impression is represented as having a tendency to pass along the nerve of transmission upwards through every intermediate position to the cerebrum itself.* This tendency, we have seen, is not in many cases carried out. The nervous impression is intercepted at a lower ganglionic centre, and reflected there for the performance of various important functions. Yet, even in those cases in which there is no conscious recognition, the relation of the nerves

* Morell's *Psychology*, p. 97.

to the higher conscious centre is so intimate that some influence is probably at all times given forth upon it.

The reflections from the sensory ganglions at the base of the brain may be said to form the second range of nervous action in man, which, in its special character, is of the most important kind. These ganglions are the great seat of sensation. The nerves of the senses terminate in them, and hence proceed all our well-known modes of sensation, so various and exquisite. But while this range of nervous action lies so completely within the sphere of feeling and consciousness, it is yet irrespective of the will. The responsive movements flow forth instinctively; they are the simple involuntary play of sensations. Such automatic movements are the winking of the eye, shuddering, balancing of the body to prevent falling, and many others.

The highest and complete range of nervous action proceeds from the cerebrum itself. While, in truth, the lower ganglionic centres are so constituted as to be capable of originating independent ranges of action, they are yet so intimately related to this highest centre as to be constantly within its influence. The effects, for example, of intense thought or of strong emotion upon the processes of organic life are familiarly known. It is deserving of remark, however, that this cerebral influence can only be propagated downwards after a certain manner. The mind can only influence directly the sensory ganglions, the sensations which are the appropriate expression of their action again acting upon the lower ganglionic centres concerned in the processes in question. The idea of a pleasant taste, for

example, will make the mouth water, and the sensation thus created will stimulate, through the inferior excito-motor centre, the action of the stomach. But the mind cannot operate directly upon the alimentary apparatus.

The cerebrum, it is well known, is the special seat of those varied ideas and emotions which constitute what is peculiarly considered our mental activity. It is the seat, moreover, of that moral activity which in man is the flower of existence. In the will, as the only complete expression of our cerebral energy, the whole complex human life does not certainly take its rise, but here alone it finds its sum and perfection. What grounds there may be for reckoning in the cerebrum two distinct centres of nervous action—an idea-motor, so called and described by Dr Laycock,* and one (the highest of all) specially volitional †—need not occupy us in so cursory and second-hand a sketch as this.

We have presented more than enough to evince the clear design stamped on every feature of man's nervous system. On the one hand, its elaborate structure, so nicely and curiously wrought, and on the other hand, its diversified yet never conflicting action, are among the most impressive manifestations of a wisdom which, shining forth everywhere in nature, here shines forth with, perhaps, special significance and beauty. It were a vain effort to exalt any one aspect of creation above another, Divine order being equally conspicuous in all; yet it would seem that here, in the exquisite organisation which we have been contemplating,

* In a paper read before the British Association, 1844.

† See MORELL'S *Psychology*, p. 100-102.

Reason is eminent with a peculiar lustre. Here, standing at the summit of the physical, on the verge of that self-conscious reason which sees its own forms reflected everywhere, we seem to see the most perfect correspondence between matter and spirit—between the order that merely shows Mind, and the mind that perceives Order. The pious instinct which, on a comparatively inadequate view, lifted the soul of the Psalmist to God, here awakens irrepressibly in every reverent heart, "I will praise Thee; for I am fearfully and wonderfully made."

§ II.—CHAPTER VIII.

TYPICAL FORMS—DIVINE WISDOM.

THE general conception of order with which we set out, has in the few last chapters become mixed up with the more special conception of design. The teleological aspect of organic phenomena is that which most readily fixes the attention of the Natural Theologian, as it is that which has hitherto proved the most successful key of discovery in prosecuting their study. Under the influence of the illustrious Cuvier, this teleological view had assumed such a prominence in physiology as almost to obscure the more general view of a unity of plan or order. Of late, however, and especially through the profound and laborious researches of Professor Owen, this latter view has begun to claim renewed interest. In his two works — "On the Archetype and Homologies of the Vertebrate Skeleton," and "On the Nature of Limbs"—he has especially shown its value and fruitfulness as a guiding principle of investigation in comparative anatomy; and the same principle has, in truth, been gaining ground in the whole region of physiology, as pro-

bably furnishing, here no less than in other departments, the deepest and most pervading key of explanation. It is felt now, at length, after the extravagance of polemic on either side has passed away, that there is no necessary contradiction between the more special and the more comprehensive and yet grander doctrine.

We have already seen the numerical relation which subsists between the different parts of plants. In the great division of the vegetable kingdom, 3 is found to be the pervading or typical number of the monocotyledonous plants, and 5 the pervading or typical number of the dicotyledonous. This numerical unity is found, on closer examination, to be merely a single indication of the typical unity which, throughout the whole range of the vegetable kingdom, underlies its infinite variety. Beneath all this variety, apparently and in reality so boundless, there emerges to the critical gaze an identity of form of the most interesting and wonderful character.

The science which treats of this pervading feature of the organic kingdom has been termed Morphology,* and has within the last half-century drawn the special attention of naturalists. In so far as it relates to botany, Professor Schleiden has devoted one of the chapters of his very attractive work, *The Plant, a Biography*, to the subject. He thus describes the importance of form to the plant, and the frequent subordination of every other thing to it:—

* In so far as we know the term, morphology was first made use of in application to anatomy in the year 1819, by Burduch, in his treatise *Über die Aufgabe der Morphologie.* Leipzig: 1819.

"Whether it arises from the essential nature of the circumstances or not, we cannot say, but, at least so far as appearance goes, the production of shape is so prominent a point in the natural history of plants, that all the rest has often been forgotten for its sake; and thus the study of form, or morphology, becomes in any case the most important branch of teaching in all botany. But it would be a great mistake to suppose that morphology is merely a meagre enunciation and description of forms. It is also a scientific question; it has to seek for the knowledge of laws, and must, at least as a preliminary step, arrange the multitude of appearances under primary points of view, place them according to rule and exception, and so gradually approach nearer to the discovery of the actual laws of nature." *

The fundamental idea of morphology, therefore, is the recognition of a common type of construction among plants and animals. In the case of the former, with which we are immediately concerned, science, penetrating beneath the mere diversity of organs, and their enumeration and classification, discerns a persistent unity of plan or law, upon which the whole plant, in its various and complicated structure, is moulded. And it is remarkable that this beautiful conception, to which science owes so much, was, in the first instance, due to the vivid intuition of a poetic, rather than the patient induction of a merely scientific mind. It was to the fine and subtle glance of Goethe, roaming through nature

* Pp. 81, 82.

with so rich a perception of its harmonies, that typical forms of structure, in the vegetable world, first revealed themselves. His *Versuch die Metamorphose der Pflanzen zu erklären,* in 1790, contained the first formal exposition of the doctrine of typical unity, and must, therefore, be considered to have laid the basis of scientific botany. It was not, however, till thirty years later, when the speculations of Goethe were taken up by de Candolle, and embodied in his work on Organography, that they attracted general attention, and passed into the scientific mind of Europe. The idea of the poet only then became the recognised doctrine of science.

Goethe, drawn to nature from the promptings of its mirrored harmony within him, carried over, as might be supposed, a somewhat too ideal view of unity to the plant. His idea of a typical plant, "whereby he signified an ideal plant, the realisation of which, as it were, nature had proposed to herself, and which she had only attained in a certain degree in the individual plants," is considered by Schleiden to be deficient in clearness and grasp of reality. And it would indeed have been wonderful if the first fresh glance of the poet had expressed with perfect precision the deep-seated truth of nature. It cannot even now be said that the fundamental forms of vegetable structure have been precisely determined; some, with Schleiden himself, finding a radical twofoldness, and others aiming to establish a unity * as

* See a paper on "Typical Forms" in the *North British Review,* August 1851, in which an attempt is made "to reduce a plant, by a more enlarged conception of its nature, to a unity." The paper, understood to be from the pen of Professor M'Cosh of Belfast, gives throughout a very informing and suggestive view of the whole subject; and we have been greatly indebted to it in the composition of this chapter.

the most general plan of the plant. It is only by very patient and comprehensive processes of induction that the most hidden order of organic nature can ever be discovered. As Schleiden says, "glorious systems may, indeed, be thought out on paper in the study, but these have no meaning or importance in the actual world. Thus, as we enter upon these things, we must rather modestly inquire whether nature is inclined to display her mysteries to us,—whether she will, in this or that individual instance, make manifest what characters are essential in their shape; in a word, what basis she will afford us for the erection of our system."

It will suffice for our general purpose to present a very brief sketch of the now established reduction of the plant to a twofold type of structure, as exhibited by Schleiden. The two representative organs, to which all the others can be reduced, are the stem and the leaf. The root, and the trunk with its lateral branches, and these again with their lateral branchlets, are simple modifications of the former. All these are of "the same structure, and tend to assume the same form." * "If a thousand branches from the same tree are compared together," says Lindley, "they will be found to be formed upon the same uniform plan, and to accord in every essential particular. Each branch is also, under favourable circumstances, capable of itself becoming a separate individual, as is found by cuttings, buddings, grafting, and other horticultural processes." Each branch or branchlet, therefore, is simply the plant repeating itself, in diversified

* *North British Review*, August 1851, p. 396.

outline, as it advances in growth—each containing within itself the germ of individual existence, and ready to become an individual plant on the application of the proper means. The term *phyton* has accordingly been given with propriety to each single part.

Upon the stem, and out of it, grows the leaf, which, in its turn, is the undoubted type of all the special organs of inflorescence, the calyx, corolla, stamens, and pistils. The sepals of the calyx, and the petals of the corolla, or flower commonly so called, are obviously enough foliar in their structure. But the stamens and pistils have been proved to be no less so, little as, on a mere cursory inspection of them, this might seem to be the case.

The plant, in its most complete development, is therefore capable of analysis into two distinct parts — a twofold system of constructive order. The diversity of stem and flower is seen to flow from a typical unity in each case; and some have carried back, as we have said, the whole diversity to a radical unity in the stem. If we cannot contemplate the special relations and uses of different organs of the plant without recognising in them the clear marks of design, it is no less impossible, surely, to contemplate this wonderful unity of organisation—this plan of structure, underlying the whole vegetable creation—without the conception of Mind forcing itself irrepressibly upon us.

But this conclusion is still more strongly enforced by the most general glance at the result of Professor Owen's researches in comparative anatomy. The labours of this great investigator have opened up a new field of interest

and significance in anatomical science. Carrying along with him the principles and conclusions of Cuvier, he soon found that their very force impelled him forward to a more profound and comprehensive principle of discovery, which, while it had been perverted by the arbitrariness of previous theorisers, is yet of incalculable value and importance. The simple fact of corresponding bones in different species, freely recognised by former anatomists, became significant to him of a great doctrine of homology, running through the whole of the vertebrate skeleton. By the term homology he expresses the unity or identity of character between the bones so answering to one another in different animals. The bones themselves he calls "homologues," in contradistinction to "analogues," which he applies to parts performing the same function; whereas homologous parts, identical in character, may exhibit every variety of form and function—are the same organs, in fact, under whatever change of circumstances. Thus the fore limbs of a quadruped, the wings of a bird, the pectoral fins of a fish, and the arms of man, are respectively homologous, because they are really the same organs, only differently modified; while again the wings of *Draco volans* are merely analogous to the wings of a bird;* each organ performing the same function, but being wholly different in structure.

Throughout the vertebrate skeleton—from that of the fish, the reptile, and bird, to that of the mammal—from the cetaceans up to man—Professor Owen has demonstrated that there are no fewer than seventy of such homologous bones,

* *Quarterly Review*, June 1853, p. 72.

which may be clearly traced, showing the uniform plan, or archetypal model, upon which the whole vertebrate races have been formed. This vertebrate archetype has been figured by him; and, in connection with the respective type-skeletons of the fish, the reptile, the bird, and the beast, is said to constitute a perfect anatomical study. With the details of the subject we feel ourselves incompetent to meddle; but the great conclusion is one which claims our earnest attention—the fact, namely, of the demonstrated unity of constructive plan underlying all the singular diversity of the vertebrate form. What a pregnant fact is this! and how vast a scheme of order does it open up in the animal creation! "If there be," says Professor Sedgwick, "an archetype in the vertebrate division of animated nature, we may well ask whether there may not be a more general archetype that runs through the whole kingdom of the living world. In a certain sense there is. All animals, if we except the Radiata, which come close to a vegetable type, are bilateral and symmetrical,* have double organs of sense, and have a nervous and vascular system, with many parts in very near homology, even when we put side by side, for comparison, the animal forms taken from the opposite extreme of nature's scale. And even in the Radiata, where we, at first sight, seem to lose all traces of the vertebrate type, on a better examination many of the genera are proved still to be bilateral and symmetrical."

There is in this grand conception of typical order a

* This statement regarding equilateral symmetry must be received with some limitations.

significance for our subject in some respects quite peculiar. Even if it were the case, therefore, that the teleological principle of Cuvier suffered any abatement of its lustre (which, according to a just view, it is yet far from doing) from the promulgation of this more comprehensive principle, the theistic argument would still be far from sustaining any loss. It gains, on the contrary, more than by any possibility it could lose. As if the homage which science had already from all quarters rendered to it were not enough, this latest advance of physiology has returned laden with an offering of most precious and conclusive meaning.

The essential question of Theism, we formerly saw, resolved itself into one regarding the rightful relation of man's reason to the world at large. Is this reason entitled to bring the manifold life of nature within its own forms, to embrace the cosmical vastness in its own mirror? We found that, in the nature of the case, it is and must be so entitled, as the very condition of science or of truth at all. Reason is not merely a growth of nature, but truly an emanation from the Divine Source of nature, and therefore validly brings all nature within its laws. Now, looking at these latest discoveries of physiological science, are they not found to bear an emphatic testimony to this fundamental position? For what is the typical order recognised as pervading creation but the signal expression of a reason allied to man's, and yet above it? What is the evidence of an ideal archetype for the world, or any part of it, but the special evidence of a Mind subsisting apart from the world, and antecedent to

it? For it is clear that such an archetype could never have existed—such a pattern could never have been stamped on creation—so deeply inlaid that we are only now discovering it—without a Mind to conceive and plan it. In the language of Professor Owen—language of the highest interest for our subject—"The recognition of an ideal exemplar for the vertebrated animals, proves that the knowledge of such a being as man must have existed before man appeared. For the Divine Mind which planned the archetype also foreknew all its modifications. The archetypal idea was manifested in the flesh, under divers modifications, upon this planet, long prior to the existence of those animal species that actually exemplify it. To what natural or secondary causes the orderly succession and progression of such organic phenomena may have been committed, we are as yet ignorant. But if, without derogation to the Divine Power, we may conceive the existence of such ministers, and personify them by the term Nature, we learn, from the past history of our globe, that she has advanced with slow and stately steps, guided by the archetypal light amidst the wreck of worlds, —from the first embodiment of the vertebrate idea, under its old ichthyic vestment, until it became arranged in the glorious garb of the human form."

And here appropriately our evidence for the special fact of the Divine wisdom may be said to culminate. Speaking to us everywhere in the laws of nature—in the special ends of organic functions—it seems in these last chapters to rise before us with a clear and vivid force of the most irre-

sistible kind. In all the intricate diversity, and yet vast archetypal unity of organic life, we seem to see with a brightness, undimmed by intervening medium, the impress of a Wisdom as grand in simplicity as it is boundless in fertility.*

* The evidence which this archetypal order or unity of plan in creation furnishes of the unity of the Divine Being, is, moreover, deserving of notice. Here, too, the language of Professor Owen is expressive of that sound Christian philosophy, which in him, as in so many of the highest minds of our country, is found in beautiful unison with the most eminent scientific attainments. "The evidence," he says, "of unity of plan in the structure of animals, testifies to the oneness of their Creator, as the modifications of the plan for different modes of life illustrate the beneficence of the Designer."

§ II.—CHAPTER IX.

MENTAL ORDER.

In advancing to this farther and higher branch of our illustrative evidence, we do not consider it necessary to enter into any formal proof of mind as a substance essentially distinct from matter. That it is so distinct has been assumed in the whole course of our preliminary reasoning, and quite warrantably so. For, to say the least, mind is as much entitled, apart from proof, to be held a distinct reality as matter. Nay, of the two, there cannot be any doubt to the genuine thinker which is the real, primary, and constitutive element of knowledge: and for the materialist, therefore, to demand a proof of the separate existence of mind, and for the philosopher or theologian to grant him the validity of this demand, is simply among the absurdities which have sprung out of the degradation both of philosophy and theology.*

* The assumption that mind is nothing else than a material function, and that the science of mind is only the highest range of the general science of physiology, is one among the many specimens of the thoroughly unphilosophic procedure which characterises Positivism. The whole tone and reasoning of M. Comte on this subject (*Philosophie Positive,* tome ii. p. 766 et seq.) are

The right of question, the burden of proof, lies plainly all the other way; matter *per se*, nature independently of mind, being, according to our whole reasoning, as well as according to all true philosophy, the simply inconceivable and inexplicable.

It is only the fact of mind, the reality of a rational consciousness in man, which at once gives occasion to the theistic problem, and forms the condition of its solution. It is only to reason that the question could ever arise, Is there a God? It is only reason that could ever originate an answer to this question. Mind, therefore, in its full and comprehensive sense—the sense in which we made such frequent use of it in our first chapters—is an element of wholly peculiar significance for our argument. It is the condition of it from the beginning. Within the mental or rational sphere alone does the argument find a footing; and within this sphere alone, as we shall afterwards see, does it find its completion. It goes forth into the world of phenomena everywhere, seeking illustration and confirmation; but the rational human spirit, the νοὺς, which is one and abiding amid all variety and fluctuation of phenomena, is alone the home of its birth, and equally of its full maturity and strength.

in fact ignorantly arrogant to such a degree as to need no refutation. His followers in this country have expressly repudiated his confusion of *psychology* with *physiology* as merely one of its branches. *Vide* Mr MILL'S *Logic*, vol. ii. p. 422-423, and Mr LEWES' *Exposition of Positivism*, p. 212.

If any one desires to see the degraded and unintelligible substitute which, under the name of "a New Cerebral Theory," M. Comte would give us, in place of our mental philosophy, let him consult the statement of this theory, in the *Politique Positive*, or in the concluding section of the first part of Mr Lewes' volume.

This radical and distinctive importance of mind must not for a moment be overlooked in the course of our evidence. But mind also presents itself to us in another point of view. In its complex and various manifestations, it furnishes also an illustrative contribution to our argument. It is not only, according to its fundamental theistic meaning, the essential correlate and condition of order everywhere, but is itself, viewed objectively, in its manifold expressions, an illustration of order of the most interesting and impressive kind. Mental phenomena bring their own appropriate testimony to the Divine wisdom, while their specialty, beyond all mere material facts, enables us for the first time to trace in an inductive manner the Divine goodness.

The field of theistic illustration afforded by mental phenomena has not, indeed, been very much frequented by natural theologians. Lord Brougham, in his discourse on Natural Theology, adverted to this neglect, and so far took up the subject in one of the sections of that work. But at the same time he has done little really to rescue it from the neglect of which he complained; and it may be doubted, from his partial treatment of it, whether he fully understood its character and importance. Dr Chalmers, in his Natural Theology, has dealt more adequately with certain parts of our mental constitution in their theistic interpretation; but he has left other parts of it, equally significant, wholly untouched.

The truth is, that there is peculiar difficulty in dealing with mental phenomena for our purpose. They are at once so confluent and subtle in themselves, and so encompassed with debate and uncertainty, arising out of the ceaseless

polemic of philosophy, that the theologian has naturally sought for illustrations of his argument in a less difficult and fluctuating class of phenomena. At the same time, the very character of mental phenomena, in their higher complicacy and refinement, only renders them the more richly fitted to display the Divine perfections, in so far as we can truly seize and represent them. The exquisite varieties of sensation, the marvellous structure of thought, the glorious workings of imagination, the infinite play of emotion, and the profound depths of passion, all speak with the most eloquent utterance of the Divine wisdom and beneficence.

In the remaining chapters of this section, we endeavour to bring into view some of the theistic meaning, which may be everywhere traced in mental phenomena. The divisions which have been commonly made of these phenomena into those of sensation, cognition, and emotion, will successively engage us. We accept these divisions as serving sufficiently to characterise the complexity of our mental life, apart from those higher rational elements which afterwards, according to our plan, receive attention by themselves ; and while our treatment, no less than that of the writers of which we have spoken, must be here very inadequate, it may yet include a sufficiently comprehensive survey of the whole field, as it presents itself, in such rich diversities of aspect, for inspection.

§ II.—CHAPTER X.

SENSATION—DIVINE GOODNESS.

THE phenomena of sensation form in all cases the lowest range of mental life, while in many of the inferior races this life reaches no farther. There are some, indeed, to whom it may seem strange to speak of mind as expressed in mere sensation. But we have no other name by which to denote that higher element or presence beyond mere organic life, which sense, even in its lowest stages, implies. That which feels is everywhere something more than that which merely lives. Sense is only such in virtue of a sentient subject, which we can only conceive intelligibly, even in the brute creation, as the dim, crude, and frequently unawakened presence of mind. It is necessary, at the same time, that we carefully preserve the distinction of mind, as possessed by man, in its fully-expressed reality of reason. Any doubt on this point would leave our argument, or indeed any theistic argument, in a somewhat hopeless state of confusion and uncertainty.

With this explanation, a mental presence is to be held as

everywhere manifested in sensation. With every sensitive act there is ever, according to Sir William Hamilton,* a distinct forthputting of mental activity. A certain attitude of attention, blind as it may be, is necessary to constitute such an act; and hence it happens that, when attention is otherwise wholly absorbed, the mental life otherwise wholly engrossed, we can sustain the most severe bodily injuries without any feeling of pain.

Sensations admit of an obvious classification in relation to the different organs on which they depend. In man they are commonly reckoned in a five-fold series, as the sensations of taste, smell, touch, hearing, and sight. It is, nevertheless, now almost universally admitted that this classification is not complete. Dr T. Brown contended for a sixth sense, under the name of the muscular sense, to which he traced various feelings generally ascribed to touch; and it cannot be doubted that there is a separate range of sensations of which our muscular frame is the appropriate organ. As this frame is tense or relaxed, as it moves rhythmically or convulsively (in shuddering, for example), or again, as it is vigorous or exhausted, it gives forth various impressions which enter into the sensory system, and form a large share of our daily sensational experience. In the very same manner the different affections flowing from the constant processes of vegetative life—those, for example, arising from a state of healthiness or disease, vigour or debility—and other affections still less defined, may very well claim to be ranked as distinct orders of sensations. It cannot be doubted that

* *Vide* Appendix to Reid's Works, p. 878.

the feelings connected with such states of the bodily organisation, however diffused, make a large portion of the common consciousness, and of the happiness or misery of our common mental existence. It is not necessary for our purpose, however, to determine such matters of purely psychological classification.

Of the five more specially recognised senses, taste and smell are rightly grouped by themselves; and again, hearing and sight stand in a similar group. Touch stands by itself, as in some respects the most important and necessary of all our senses.

Taste and smell are intimately allied: they both convey impressions derived from the chemical qualities of bodies, the one in the fluid (substances tasted must be either naturally fluid, or must be dissolved by the saliva), the other in the gaseous state. They are chiefly instrumental as subserving the more physical wants of existence; and smell, from its subservience in this point of view, is well known to reach a much more intense and powerful development in some of the lower animals than in man.

The senses of sight and hearing are more intellectual in their character and relations than the former. They carry the mind more outward, fixing it more upon the object awakening its regard. The former, as has been often pointed out, is more immediately related to the cognitive, the latter to the emotional powers, a relation which is thus curiously contrasted in a passage quoted by Mr Morell from Erdmann's *Psychologische Briefe*. "The one," says Erdman, "is the clearest, the other is the deepest of the senses.

The same contrast shows itself in the objects by which these organs are severally affected. In the former case the object shows its outward surface, as it exists unmoved in space; in the latter case it betrays, by means of the tone it gives forth, what exists within and under the surface. It is not the form and colour of an object which tells what it is, but its sound. For that reason the sight of a thing does not penetrate so much to the heart, it only tells us what is its appearance. On the other hand, the tone moves us; it tells us how the thing or the person stands to the heart itself. On that account we can easily explain the phenomena so often observed, that deafness is hard and distrustful, while blindness is mild and confiding." *

The sense of touch is peculiar in its range and the diversity of its applications. This extent and variety of operation constitute its importance and rank in comparison with the other senses; for, in point of mere intellectual dignity and refinement, it must certainly be classed below the sense of vision. It is the same characteristic which has led to that subdivision of its functions to which Dr T. Brown led the way, many separating with him the more objective phenomena of the sense, through which we are supposed to come to a clear knowledge of the primary qualities of matter—extension, solidity, hardness, &c.—from the more subjective phenomena, or those of feeling, strictly so called; and others ranging in a further separate class the sensations of temperature, usually considered to form merely a variety of those of touch.

* *Psychology*, pp. 113, 114.

In the operation of these different senses, the unerring accuracy with which they guide the inferior orders in the selection of fitting nourishment, and their rich and varying, yet so nicely discriminating flow in man, we see the bright manifestations of the same provident wisdom which we have hitherto been tracing. Marvellously complex and beautiful as are the higher *organs* of hearing and sight, they must yet surely yield in endless intricacy of harmonious adjustment to the crowding *sensations* to which they minister. If the hand of a transcendent Wisdom be visible in the arrangements of the one, must it not be also impressively recognised in the yet subtler arrangements of the other?

But it is not for the evidence of design, that may beyond doubt be here equally traced, that these phenomena possess a special interest for the Theist. Their peculiar significance consists not in the fact that in them also we see wisdom, but that in them, for the first time, we perceive goodness. In this new reality of creation we have a new testimony to the Creator. With the dawn of sense, we have the kindling of the light of love around the great First Cause. We behold no longer a merely exquisite mechanism, nor even the elaborately beautiful action of unconscious life, but the yet higher and richer workings of sentient being. In these workings there emerges for the first time the fact of enjoyment, and this fact in nature it is which alone enables us inductively to find goodness in God. Apart from this fact, Paley has said, with his wonted brief simplicity, "the attribute has no object, the term has no meaning." It is only the presence of a sentient subject in organism which enables

us to pronounce that the tendency of its design is beneficial. It is only its relation to consciousness which makes anything good or evil.

It becomes, then, for the theistic inference, a most vital and momentous question—Is enjoyment really the normal expression of sensation? Is happiness the prevailing response of consciousness? Is it, in short, "a happy world, after all?" What is the testimony which sentient life, in its manifold forms, utters on this great point? The true bearing of the question is to be carefully observed. It is not at all a question implying the non-existence of evil; on the contrary, it proceeds plainly on the supposition of evil being an undoubted reality. The truth is, that with the fact of pleasure, given in sensation, there emerges so inseparably the fact of pain—the one fact so directly suggests the other—that the induction as to the Divine goodness assumes, from the very first, a directly polemical aspect. It becomes a question in a different sense from the truth of the Divine power or wisdom; and we are so far from wishing to hide from view the obvious difficulty which thus meets us, that we frankly admit it in our very mode of stating the matter. While acknowledging the difficulty, however, we reserve it, according to the well-devised plan of our subject, for separate and special treatment. Pain is present along with pleasure—evil along with good; and it will be our subsequent aim to consider the solution of which this fact is capable. In the mean time, we simply inquire, Is not happiness present to such a degree in creation as to lead us to infer in the Creator a disposition to bestow happiness? Is

not good so apparent in nature as to declare that its Author is good? Or—to place the matter before us in the strictly special form in which it has occurred in this chapter—is not the normal action of sense, enjoyment?

To the question thus put we can only imagine one answer. When, with a clear mind and heart, we turn to nature, we see happiness expressing itself in endlessly multiplied forms. The play of conscious life is everywhere around us, and it is the play of enjoyment. Every one is familiar with the felicitous passage of Paley, descriptive of this prevailing happiness of sentient existence; and whatever shadows may lie in the background—obvious objections to which we have already adverted,—there cannot well be any dispute as to the truth as well as felicity of the Archdeacon's picture on the positive side. It cannot be rationally doubted that pleasure is the appropriate correlative of sensation everywhere. The natural meaning of feeling, so to speak, is happiness. Feeling is no doubt also liable to be pain; but—and this alone is the point of our present argument—pain is the exception, pleasure the rule. If a nerve be lacerated, it will unquestionably give forth a sensation of pain; but the expression of the nervous system is nevertheless, in all animals, according to its originally constituted working—or in other words, when not interfered with—pleasure. And this is what we intend by speaking of the normal action of sensation as pleasurable. The constitution of animal life is such that it yields, in harmonious operation, enjoyment. The design, therefore, of that constitution is clearly benevolent, even if it were, in

the actual circumstances of the case, more liable to interference than it is. In truth, however, it is not only designed to evolve happiness, but so secured in its working that the design is for the most part effectually accomplished.

Happiness ascends million-voiced to the great Source of Being day by day. It is a living, if often inarticulate speech, diffused through creation, and warming it everywhere with the breath of thanksgiving. It is a song of natural piety which is new every morning, and fails not every evening, although many jars mingle in the wide-toned *benedicite*. These mar the harmony of the song, but it still goes upwards, a pervading strain of happiness, in testimony of the Love from which it comes, and in which alone it lives.

§ II.—CHAPTER XI.

INSTINCT.

BEFORE passing onward in our inductive psychological survey, we are met by a question of special theistic interest, in regard to the display of mind in certain of the lower animals. We do not here, indeed, propose to meddle with the general question of animal mind, which presents so many apparently insuperable difficulties; but that peculiar manifestation of intelligence, in many of the lower creation, which has received the name of "Instinct," and which has been supposed to bear with a very conclusive effect upon our subject, demands from us a passing notice.

The cell-making of the bee, and the nest-building of the bird, are familiar examples of instinct. The mental power, displayed by the animal in these operations, appears to be wholly singular. In ordinary cases, mind works only according to instruction and experience: it is dependent on education, and increases with exercise. In these and other similar cases it operates, in the language of Paley, "prior to experience, and independent of instruction." Nor is

this all. The definition of Paley — broadly as it demarcates the mode of instinct from that of mind in the ordinary sense—is considered by Lord Brougham to fail in expressing the most essential element of distinction between the two ; viz., the conscious intention or foresight which is ever present in the one case in any effort of higher constructiveness, but which, in many cases of instinct, it seems wholly impossible to conceive present. The bee or the bird, for example, not only works towards the most beautiful results —builds the one its cell, and the other its nest—with a skill and precision which human effort only approaches at a distance,—neither of them having ever seen a cell or a nest before, or having ever previously tried to make one ; but, in many cases, there seems also, as the most wonderful fact of all, the certain absence of any foresight of the end towards which all this animal ingenuity is expended. In the case of the bee, as his lordship has well put it in his discussion with Lord Althorpe, in the first of his dialogues, " I see her doing certain things which are manifestly to produce an effect she can know nothing about—for example, making a cell, and furnishing it with carpets and with liquid, fit to hold and to cherish safely a tender grub, and knowing nothing, of course, about grubs, or that any grub is ever to come, or that any such use, perhaps any use at all, is ever to be made of the work she is about. Indeed, I see another insect—the solitary wasp—bring a given number of small grubs, and deposit them in a hole which she has made over her egg, just grubs enough to maintain the worm that egg will produce when hatched—and yet this wasp never saw

an egg produce a worm—nor ever saw a worm—nay, is to be dead long before the worm can be in existence; and, moreover, she never has in any way tasted or used these grubs, or used the hole she made, except for the prospective benefit of the unknown worm she is never to see. In all these cases, then, the animal works positively without knowledge, and in the dark. She also works without designing anything, and yet she works to a certain defined and important purpose."*

It is, of course, impossible to pronounce so decidedly as to the absence of design, on the part of the animal, towards the end for which she is working, as it is to pronounce regarding her want of instruction. We have no means of absolutely determining the relation of the animal's consciousness to her work; whereas it is easy to ascertain, and is beyond all dispute, that she has never learned her art from others. She is as perfect at it at the first as at the last; and every bee, and every succeeding race of bees, works exactly in the same manner, and with the same exact degree of perfection—all which plainly declares the endowment to be of a specific character, distinct from ordinary intelligence. There is, however, as in the cases described, and certain others, the strongest evidence for concluding in the animal ignorance of intention towards the special end for which she works. If we did the same things, we know we should be planning in ignorance. And even those who have endeavoured most earnestly to reduce the operations of instinct to the category of ordinary intelligence, have been found to acknowledge

* *Dialogues on Instinct*, pp. 25, 26.

such an absence of foresight in the animal in cases where the most refined and difficult end is yet subserved.*

It has been a favourite attempt, it is true, of certain naturalists to explain such examples of animal skill by the aid of simple sensations. The bee and the bird are supposed to proceed in their work under the guidance of certain corporeal feelings, which only reach their gratification in its accomplishment. But, granting this, which is very probable, it seems to go but a little way towards an explanation; for, while such sensations may account for the animal's impulse toward her work, and even her continuance in it, they can never surely account for her ability to perform it. They may prompt it, but it is inconceivable that they can execute it; and we find, accordingly, that the very writers who would reduce the whole process to a series of sensations, many of them purely hypothetical, are yet, in the very nature of the case, obliged to call in a "constructive head" and a "stroke of genius" to complete the work. No one, indeed, could desire a better exposure of the futility of all such attempts to account for instinct on the mere ground of sensation, than that which is furnished by the very character of these attempts, as described by the writers in question. The impression which they must make on every mind, which is less eager to support an hypothesis than to ascertain the truth, is in the highest degree unsatisfactory. The mystery, as explained, is only tenfold more mysterious, while the explanation itself is incumbered by an amount of hypothesis which renders it wholly valueless.*

* CHAMBERS'S *Papers for the People*, No. 182, p. 29.

† Vide *Papers for the People*, No 182, pp. 30, 31,—which we mention because

The sensational view of instinct has been fully discussed by Lord Brougham in his well-known Dialogues—his interlocutor urging, with great acuteness, all its supposed force of explanation. It is impossible not to feel that it receives a very thorough and candid examination, and that it is rightly pronounced completely wanting at once in its arbitrariness, and in its failure, even if its arbitrariness were overlooked, to compass the most essential conditions of the problem. His lordship has shown this with great minuteness, and with the most undeniable success in the special case of the bee; and we cannot do better than refer any of our readers, who would more fully investigate the subject, to his interesting volume. It seems to us, upon the whole, that we are clearly warranted in asserting the operations of instinct to be often unconscious in reference to the end which they specially accomplish. Nay, it seems to be, as Lord Brougham contends, that it is this element of blind instrumentality in the production of a highly-wrought intellectual result that we specifically mean by instinct. It is the disproportion and inadequacy of the apparent means to the end which constitutes the marvel, and has so fixed curiosity upon it.

Let us see, then, what is the bearing of this upon our subject. In such instinctive operations, we have the presence of a very high degree of intelligence. The important question arises, whose intelligence? The whole result of

of the eminent ability that marks it, entirely inconclusive as we conceive its reasoning to be.

our examination of the facts has been to show that it is not, in any common sense, the intelligence of the animal that is here at work. There are some of the facts, as the rare mathematical qualities of the bees' work, which imply a knowledge that man has only attained by the most difficult and gradual mental processes,* and these alone would seem, from the first, to preclude the idea of the directing intelligence being that of the animal. But the strongest evidence against such a supposition consists certainly in the peculiar character of the mental power which here appears; displaying itself at once in such full and exquisite perfection, and with such unerring success accomplishing ends, of which it is incredible to conceive any prevision in the animal. If we cannot, therefore, accredit the animal itself with either the rare skill or the conscious purpose manifested in the operations before us, are we not carried directly upward to the Divine intelligence working in and through the

* The hexagonal character of the bees' cell, and the purpose thereby so admirably served of the utmost possible saving of space, are so well known that it is unnecessary to do more than allude to them. This peculiar property of the hexagon was only ascertained by man in the progress of mathematical discovery. It is particularly deserving of notice, that certain doubts which had been cast upon the mathematical perfection of the bees' work have been completely dissipated by Lord Brougham, and much new and interesting light thus reflected on its highly intellectual character. From the analysis of a young mathematician of the name of Kœnig, a pupil of Bernoulli, a discrepancy of two minutes was supposed to be found between the measurement of Maraldi of the actual angles of the cell, and that of the angles that made the greatest saving of wax. His lordship, however, by solving the problem in another way, found that the bee was right, and the analyst wrong; and other mathematicians corroborate him in this result. In another respect also, as to the saving of the wax in relation to the dimensions of the cell, which had been disputed by a Berlin academician, he vindicates the bee triumphantly against her critic.

animal? The argument may perhaps be stated more explicitly thus: We have here a mental process of a very high order; we must find a mental agent. Such an agent we do not find in the animal; it appears, on the contrary, from all evidence, to be a mere blind instrument. We are forced, therefore, to admit a higher agent. This agent can only be the Supreme Intelligence everywhere present in creation.

The conclusion which is here expressed is well known to be that in which many of the highest and most competent minds have rested. It seems to have been that of Newton, if his words, as quoted by Lord Brougham, are not yet entirely explicit.* Pope, in his well-known lines,† and Addison,‡ although with less clearness, have expressed the same truth. His lordship, in his second Dialogue, argues it at great length, and with great force, so as to leave a strong impression in its favour on the mind of every candid reader, if he may yet feel some parts of the argument not very lucid or satisfactory.

The conclusion is an important one for our subject. Even if we do not assign it any exclusive weight,—as, according to our whole view, it is not so much exclusive in its character as it has been commonly supposed to be,—it yet possesses an

* *Dialogues*, pp. 61-62.

† "See then the acting and comparing powers,
One in their nature,—which are two in ours;
And reason raise o'er instinct as you can,
In this 'tis God that acts, in that 'tis man."—*Essay.*

‡ *Spectator*, No. 120.

interesting force which claims recognition in our inductive ascent. All nature and all life reveal a present Deity. Their mystery is only intelligible in such a presence. But here, in this special mystery, we appear to see the special presence of Divine agency—the immediate operation of the Divine Mind.

§ II.—CHAPTER XII.

COGNITIVE STRUCTURE IN MAN.

In entering upon the subject of this chapter, it is perhaps especially necessary for us to disclaim any pretension of treating the subject by itself. Here, as throughout in these chapters, our object is only to exhibit the bearing of the facts with which we deal upon the illustration of the Divine perfections. To a scientific investigation of the facts by themselves it would be wholly absurd in us to pretend. We take them, for the most part, simply as they are presented to us by the labours of others, who have cultivated the respective sciences to which they relate. It is enough for us that they are recognised as facts, although in some cases they may admit of a higher scientific explanation than that which we give of them. Our only concern is to set forth their theistic meaning, neither mistaking, nor, if possible, exaggerating aught.

In regard to the facts treated of in this and the succeeding chapter, we can scarcely hope to be even so far successful. The pregnant interest of the facts, in our point of view, irre-

sistibly prompted a survey of them ; yet their subtlety, and the dire polemic which everywhere encompasses them, render such a mere summary survey as was at all compatible with our purpose peculiarly difficult. This, however, is to be kept in mind, that even where our statement and explanation of the fact may not be accepted, the theistic conclusion which we draw will, for the most part, remain untouched.

There is no fact more difficult than that which meets us on the threshold of the sphere of cognition, and constitutes its condition. Perception is, in truth, the eternal problem of philosophy, from the special solution of which systems take their divergent course after an obvious and consistent manner, passing on the one extreme to materialism, on the other to idealism.

Sensation in its lowest forms we formerly found to give, as its essential condition, a sentient self or subjective. Perception, in every case, gives not only a self, but also in correlation a not-self, an objective. The former draws and contains the field of apprehension within, the latter shuts it out from the sphere of self ; no contrast or distinction being given in the former, distinction and contrast (apprehension of relation) being the characteristic of the latter.* Only in this apprehension, "not merely of a fact, but of relations," can cognition be properly said to begin. It is no longer simply consciousness, but consciousness expressing itself in an attitude of distinction from objective phenomena, the ego realising itself against the non-ego, and thereby becoming a centre of knowledge.

* Sir W. Hamilton's Appendix to Reid's Works, p. 880.

But what more specially makes the contents of this fact of perception, or initial moment of cognition? This is the metaphysical life-question, ceaseless in its stir. The old controversies die away, but from their ashes there spring up only higher and intenser forms of the problem.* Meanwhile, in its secret depths the fact evermore is born, and goes forth an intelligible presence into the world of reality, however we may explain or give an account of it.

On any admissible explanation, we have in perception, according to what we have already stated, self and not-self, the ego and non-ego, in clear distinction, and yet in indissoluble relation. The correlation is in the perceptive act inseparable, while its factors are distinguishable. The one stands face to face with the other, and equally with the other attests itself. The reality in cognition is, therefore, ever twofold—subject and object; and in this twofold reality we have for the first time the full manifestation of mind—self-consciousness not merely gazing outward upon the objective world (as in the brute), but realising itself as distinct from and above the world.

And viewed in reference to our subject, what a marvellous

* This question has again arisen in the sphere of our British philosophy, under the handling of one of the most finely speculative minds that ever entered this field of high debate. In Professor Ferrier's *Institutes of Metaphysic* the latest doctrine of psychology, which had gained such general acceptance, has been set aside as not only incomplete, but vicious as a basis of speculation. With Mr Ferrier's special doctrine it would be out of place here to meddle. We have no doubt, however, that the subtlety and depth of metaphysical genius which his work betrays, its rare display of rigorous and consistent reasoning, and the inimitable precision and beauty of its style on almost every page, must secure for it a distinguished place in the history of philosophical discussion.

reality is this! With what fresh emphasis does it enunciate the inexhaustible energy of the great creative Source! What a new and beautiful utterance of Divine wisdom is it!—its very "image" deposited within the conditions of time and space! What a field of display for the Divine goodness does it open up! We cannot conceive it doubted that the fact of perception is thus validly pregnant with theistic significance. If, in the various organs of sense, the exquisite complicacy and delicacy of the nervous system, we recognise the clear manifestation of creative design, no less surely must we recognise it in the wonderful mental capacity to which these minister. For it is only in the exercise of the mind in perception that all the sensitive apparatus finds its highest purpose and fulfilment. All the marvel of its intricate and beautiful mechanism is only, in the last respect, for mind's service. In perception the mind appropriates and adjusts every lower organ and function for its own nobler spiritual uses. Surely, therefore, we must here recognise a farther token of creative presence and skill.

The subjective and objective being brought face to face in perception, a continued mental activity is the result. The mind is continually taking in impressions through the avenue of the senses. It is obvious, however, that without some further attribute, this mental activity would have little availed. Incessantly as it was quickened it would have expired—the old impressions yielding to new ones ever presenting themselves. Knowledge, in any true sense, would thus have been impossible. Whatever might have been the liveliness or the range of perception, the mind

could never have been truly cognitive without a power of acquisition.

In the human mind a preservative power seems to emerge consentaneously with the presentative in perception. The mind not only perceives, but retains. This is one of the elements of the complex faculty which philosophers generally have denominated memory, the other element being specifically known as recollection.* There seems, however, good reason for confining the appellation of memory to the simple power of retention, which undoubtedly must be considered an original aptitude of the mind, irresolvable into any other. The power of recalling the preserved impressions seems, on the other hand, rightly held to be only a modified exercise of the suggestive or reproductive faculty, which next falls under our notice. This is well known as the view of Dr Thomas Brown, in the establishment of which he considered he had destroyed all the claims of memory to be regarded as an original faculty of mind. But that his subtlety was so far at fault, is evident from the simple fact that, apart from the mind's capacity of retention, of which he takes no account, the suggestive or associative faculty would have no material whereon to operate.

The best claim of this power of retention to be reckoned an original element of mind is seen in its primary and fun-

* "This faculty," says Dugald Stewart, who presents a very clear and thorough analysis of it according to its twofold conception, "implies two things—a capacity of retaining knowledge, and a power of recalling it to our thoughts when we have occasion to apply it to use. The word memory is sometimes employed to express the capacity, and sometimes the power."—*Philosophy of the Human Mind*, vol. i. p. 404.

damental importance. Apart from it, mind might have been a continued, but it would necessarily have been an aimless and futile activity. Consciousness would have been incessantly born only to expire—a mere series of intense bewilderment. But a simple power of retention was not all that was necessary. It required to be, for the purposes of knowledge, the very kind of retention which we actually possess; the power, for example, not only of preserving impressions, but of preserving them beyond the immediate sphere of consciousness — storing them away, as it were, within a secret repository, whence they can with more or less facility be drawn by the operation of the suggestive faculty. This is a very important feature of memory which has been too little noticed. It is obviously the condition at once of order and repose among our ideas. Otherwise, with even an inconceivably higher range of attention than we now possess, we must have been utterly oppressed by the commingling and hurrying crowd of our perceptions. They would have been ever in presence, so many petitioners, incessantly and with equal eagerness soliciting our regard, and overwhelming us with their anxious suit. Consciousness must have sunk under its intolerable burden. It would have been no longer, indeed, a brief ever-vanishing impulse, but a too vivid agony. The mental energy must have perished under the thronging rush of its recipients, like the maid of Roman story under the shields of the invaders admitted into her fortress.* What a truly admirable provision, therefore, is this power

* This comparison, which seemed to us as sufficiently fitting, is not our own, but to whom it belongs we cannot exactly say. It is willingly conceded to any one who puts in a valid claim for it.

of retention! In describing it, we have necessarily set forth at the same time its useful and beneficent character.

We cannot pass away from it without noticing shortly its dependence upon attention, and the interesting use and value of this mental capacity—which is not yet to be reckoned, as it has sometimes been, a separate faculty, so much as the mere attitude or energy of the soul in every other faculty. Even in sensation, which most of all might be supposed independent of attention, we found that a distinct act of it was put forth. This mental attitude is, however, especially related to the faculty of retention, conditioning it to such a degree as to be apt even to be confounded with it. This dependence of memory upon attention has been noticed by all our philosophical writers.* Our degree of *re*tention seems, in fact, to be exactly proportioned to our degree of *at*tention. The more intense the attitude of the mind towards any object in the first place, the more fixed the impression retained of it. And thus it is we readily account for the strong and ineradicable impressions made by those objects which have interested the passions and drawn forth the whole soul.

The importance and value of this mental capacity are abundantly obvious. It may be said to underlie our whole mental being, as the condition of its culture and progress, imparting to it that ever-quickening spur which carries it onwards to new triumphs, and, to a large extent, those varying measures of development which it manifests in different

* STEWART'S *Philosophy of the Human Mind*, vol. i. p. 106 *et seq.*; LOCKE *On the Human Understanding*, vol. i. chap. x.

individuals. All science is its product; and life owes to it all its interest and joy. It is, alone, its incessant operation from infancy—filling the storehouse of memory with the familiar images of parents and brothers and sisters—which binds together family ties, and strengthens all family love.*

The mind having apprehended in perception and laid up in memory the objects of knowledge, it was obviously necessary that it should possess a power of recalling or reproducing these objects, in order that its knowledge should be serviceable to it. Stored away irrevocably beyond the sphere of consciousness, they had as well never have been laid up. We have seen how requisite a provision it is that they should lie beyond this sphere, in order to leave the mind at liberty to occupy itself with other objects continuing to solicit it; but it is clear that if thus for ever laid away, our stores of perception could never have become to us stores of experience, and mere accumulation never have quickened into living knowledge. We have, therefore, the power of recalling our past impressions. This we are enabled to do in virtue of that great principle of our mental constitution familiarly known as the association of ideas, but more correctly expressed as our suggestive or reproductive faculty. There is none of our mental faculties which has in later times engaged more study than this—none

* Although we had the capacity of retaining knowledge, if this capacity were not, as it is, in proportion to attention, one impression would have been as good and effectual as a thousand, and all family union and recognition would thus have been impossible. Any face would have been just as distinguishable, or rather as indistinguishable, to a child, as the faces of its parents.

which has at all times excited more marvel, and prompted more curious inquiry.

The process of reproduction takes place according to laws which have been variously enumerated and described, and the honour of first generalising which has been sometimes attributed to one or other of our modern philosophers—to Hobbes, Locke, and Hume. Sir W. Hamilton,* however, has recently claimed this honour for Aristotle, whose generalisation is not only first in time, but also, in his view, the most correct and comprehensive. These laws are generally reckoned at least four in number,—viz., the law of similarity, the law of contrast or correlation, the law of co-adjacency (contiguity in time and place), and what Sir William Hamilton has called under protest, the law of preference, meant to include Brown's secondary laws of suggestion. Under the operation of one or other of these laws our mental activity proceeds, and all our mental experience is accumulated. Through them order is introduced into what would otherwise be the mere chaos of mental succession, and the way, as it were, is cleared for the emergence of those higher activities which carry forward our intellectual development. Each mind receives its peculiar tone, and enters upon its peculiar education, under their influence.

Putting out of view the fourth of these laws, which is obviously distinct, and not indeed properly expressive of a principle of mental succession, but only of a determining acci-

* *Vide* Appendix to Reid's Works, Note D.

dent of it,* it seems possible to reduce the other three to one fundamental law or principle, which may be defined as that whereby the mind, in all its efforts, completes a circle of thought—in other words, brings a whole into all its representations. The special laws mentioned seem all capable of being regarded as merely particular modes of the operation of this one great law of integration. If we suppose, as an example of the first, the case of one face, from some point of likeness in it, suggesting another, let us see what is the mental process which takes place. The mind, on apprehending the particular point of resemblance in the face before it, immediately begins to complete the image thereby recalled. It feels that it has got a part of a whole formerly familiar to it, and its immediate aim is to bring into view that whole. In ordinary instances the image completes itself instantaneously, and we are not therefore conscious of any such aim; but, in some instances, it is only after frequent efforts that it does so (as when we see a face resembling some one that we cannot yet recall), and then we become distinctly conscious of the reproductive operation. The eye, or mouth, or whatever part of the strange face is recognised as familiar, is fixed upon by the mind, and becomes the centre of a representative picture which the mind has no satisfaction till it has completed. In the case of the law of contrast, as when night suggests day, good

* It expresses the relation not between mental phenomena in themselves, but between the individual mind and any series of such phenomena. It is a determining accident of association, therefore, rather than an inherent principle or law of it.

evil, a dwarf a giant, the mental process is still more obviously of this integrating character.* For, in fact, the one mental conception here directly involves the other, and is only fully intelligible in relation to it. Each idea is to us only what it is, on account of its opposite. In passing from the one to the other, therefore, the mind is simply completing the complex image, one side of which is always the necessary correlate of the other. The same seems to hold equally true of the law of co-adjacency, as when a certain house recalls the friends we met—the conversation we had in it; or when one event recalls another which happened at the same time. In both cases the mental process obviously consists in the completion from a fragmentary of a total representation, previously laid up in the storehouse of memory.

When the train of association is once started (the integrating process once begun), it proceeds throughout in the same way. Every successive representation called up, still surrounds itself with another as part of a further whole. It is often the very slightest bond—so slight as to escape, at the moment, detection—that unites the successive evolutions of the mental panorama. In one mind, moreover, association will take place by deeper and more remote, in another, by more common and palpable, analogies. Mental refinement is really nothing else than the facile play of association round the more subtle and recondite characteristics of things—their more hidden and beautiful relations. It is

* Sir W. Hamilton calls this law specially the law of relativity or integration. —*Vide* Appendix to Reid's Works, Note D, p. 911.

simply the exquisite edge imparted by discipline to the reproductive faculty.

In speaking thus of the process of reproduction as throughout of an integrating character, it may be necessary to guard against our being supposed to say that the mind necessarily impresses a whole upon all the successive train of its ideas. This, on the contrary, we know it frequently does not do, the last link in the train having often no relation to the first as parts of a common whole. Mental succession is not unfrequently, as in reverie, a mere straggling array of scattered images. The integration does not proceed, as it is not necessary that it should, all along its course, but only from step to step. The general train may thus present a very incongruous mixture of ideas, while it has yet, at every step, strictly obeyed the great law of mental development. We may further observe that it is not necessary, as we might be apt to think from a first confused conception of the law, that the facts of a train of association should have previously coexisted in the mind. In some cases they have coexisted, and to this fact of their coexistence is owing their tendency to reproduce one another; but more frequently they have had no such previous alliance in the mind. An object never before perceived may suggest an old familiar object; while, again, an object frequently perceived, may suggest, in different moments, very different and even quite new trains of thought. Were it not for this characteristic of the principle of association, the field of our knowledge would have been compara-

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tively narrow, confined as it must have been to the relations which, from actual observation, we had stored up in our minds. We would never have been able to get out of the past wheel or circle of our thoughts. As it is, the suggestive capacity, continually started by everything around us, is in all active and cultivated minds ever entering on fresh fields of intellectual interest, and acquiring fresh stores of knowledge.

Altogether, there is, perhaps, no part of our intellectual condition of which the beneficial use and beauty are more conspicuous. Apart from it, life could have possessed no individual interest; and the continual flow of consciousness could never have become concentrated and quickened into special cultivation and happiness. In the language of Dr Thomas Brown, "It is the suggesting principle, the reviver of thoughts and feelings which have passed away, that gives value to all our other powers and susceptibilities, intellectual and moral,—not, indeed, by producing them, for, though unevolved, they would still, as latent capacities, be a part of the original constitution of our spiritual nature—but by rousing them into action, and furnishing them with those accumulating and inexhaustible materials which are to be the elements of future thought, and the objects of future emotion. Every talent by which we excel, and every vivid feeling which animates us, derive their energy from the suggestions of this ever-active principle. We love and hate; we desire and fear; we use means for obtaining good and avoiding evil, because we remember the objects and occurrences

which we have formerly observed, and because the future, in the similarity of the successions which it presents, appears to us only a prolongation of the past.

" In conferring on us the capacity of these spontaneous suggestions, then, Heaven has much more than doubled our existence; for without it, and consequently without those faculties and emotions which involve it, existence would scarcely have been desirable. The very importance of the benefits which we derive from it, however, renders us, perhaps, less sensible of its value; since it is so mingled with all our knowledge, and all our plans of action, that we find it difficult to conceive a state of sentient being of which it is not a part, and to estimate, consequently, at a just amount the advantage which it affords. The future memory of perception seems to us almost implied in perception itself; and to speculate on that strange state of existence which would have been the condition of man if he had been formed without the power of remembrance, and capable only of a series of sensations, has at first an appearance almost of absurdity and contradiction, as if we were imagining conditions which were in their nature incompatible. Yet, assuredly, if it were possible for us to consider such a subject *a priori*, the real cause of wonder would appear to be, not in the absence of the suggestions of memory, as in the case imagined, but in that remembrance of which we have the happy experience. When a feeling of the existence, of which consciousness furnishes the only evidence, has passed away so completely that not even the slightest consciousness of it remains, it would

surely, but for that experience, be more natural to suppose that it had perished altogether, than that it should, at the distance of many years, without any renewal of it by the external cause which originally produced it, again start, as it were of itself, into being. To foresee that which has not yet begun to exist, is in itself scarcely more unaccountable than to see as it were before us what has wholly ceased to exist. The present moment is all of which we are conscious, and which can strictly be said to have a real existence, in relation to ourselves. That mode of time which we call the past, and that other mode of time which we call the future, are both equally unexisting. That the knowledge of either should be added to us, so as to form a part of our present consciousness, is a gift of Heaven, most beneficial to us, indeed, but most mysterious, and equally, or nearly equally, mysterious, whether the unexisting time of which the knowledge is indulged to us be the future or the past." *

Nor is the Divine wisdom and benevolence alone manifest in the simple power bestowed upon us of reproducing our former thoughts and feelings, but especially in the actual mode of their reproduction, according to certain definite laws. This definiteness in the procedure of the suggestive faculty is the sole condition of our being able to apply our experience, and to make continued progress in the pursuit of knowledge. It alone enables us to devise plans of acquisition, and to calculate upon the results of education. Without it, we might have enjoyed, in the power of reproduction, a variety

* *Lectures*, tenth edit., p. 217-218.

of feeling, but it could have been of no use either for our happiness or our cultivation. "He who has given us, in one simple principle, the power of reviving the past, has not made His gift so unavailing. The feelings which this wonderful principle preserves and restores, arise, not loosely and confusedly, but according to general laws or tendencies of succession, contrived with the most admirable adaptation to our wants, so as to bring again before us the knowledge formerly acquired by us, at the very time when it is most profitable that it should return. A value is thus given to experience, which otherwise would not be worthy of the name; and we are enabled to extend it almost at pleasure, so as to profit, not merely by that experience which the events of nature, occurring in conformity with these general laws, must at any rate have afforded to us, but to regulate this very experience itself, to dispose objects and events so that, by tendencies of suggestion on the firmness of which we may put perfect reliance, they shall give us, perhaps at the distance of many years, such lessons as we may wish them to yield, and thus to invent and create, in a great measure, the intellectual and moral history of our future life, as an epic or dramatic writer arranges at his will the continued scenes of his various and magnificent narrative." *

In our analysis of the cognitive structure in man we have now reached an important stage. We have marked the great facts of perception, memory, and suggestion, in their respective bearings on our subject. In the first, we have seen the

* Brown's *Lectures*, tenth edit., p. 218.

mind presentative or intuitive (the subject standing face to face with the objective reality in perception), in the second, retentive, in the third, representative. It is desirable to notice the peculiar advance of the mental capacity in this third stage. It is no longer the immediate facts of nature with which it deals. It is no longer directly conversant with the objective realities everywhere obtruded upon it, but with its own reconstructions of these realities. It is not the thing itself any more which the mind has before it, but an image or representation of it. It has, as it were, freed itself from the presence of the outward world, and begun to construct for itself a new world of ideas. Here, therefore, it enters into a far higher sphere of activity than before.

From this point of advance the intellectual energy rapidly develops into those various forms which have been sometimes treated as so many separate faculties. In all of them there is simply displayed, in a variety of modes and applications, the power of representation, or of forming ideas. It will only be necessary for us to indicate the two main directions which the mind assumes in these its higher productive stages. These are, the understanding and the imagination.

The mind having, in the process of reproduction, attained a series of images or ideas of its past objects of perception, immediately begins to bring these ideas into relation to one another. This it does in different ways ; by fixing, for example, upon points of resemblance among its ideas, and out of these resemblances constituting a new general idea,—as when, from

several representations of individual men, we attain to the general idea of man—a process well known as generalisation; or, again, by separating from different objects held in contemplation some specific quality, and making of it a new idea,—as when we recognise different objects as white or cold, &c., the common property of whiteness or coldness being constituted into a separate idea—a process equally well known as abstraction. The mental act here, it is obvious, is not simply reproductive, but specially productive. In the exercise of association the mind has already left behind the actual objective world, to concern itself with its own ideas, or reconstruction of that world. But these ideas yet directly represent the original realities: the one looks back to the other. Here, however, in the processes of generalisation and abstraction, the mind no longer looks beyond its own forms or notions. Its ideas, from being mere representations of past objects of perception, become, irrespective of all reference to such objects, fixed mental possessions, which we contemplate by themselves, and by which we carry on trains of reasoning.

It is necessary to state, however, that an indispensable preliminary to this advance of intelligence is the power of language,—a power which even emerges on the lower sphere of simple representation, and is requisite to its development to any extent. Without such a power, the mind might construct representations of the objects of its past experience, as is clearly done by the lower animals, but it could not hold them before it freely when separated from experience. It could not freely entertain and make use of its ideas without

a power of embodying them in signs.* And especially it could not, apart from signs, begin that process of comparison among its ideas which constitutes the special function of the understanding. It is only when the mind has, through the aid of language, fixed its representations, and given them, so to speak, a new objectivity within its own realm, that it can deal with them entirely by themselves, and, apart altogether from the outward world, carry on that higher course of activity which we peculiarly denominate thought.

The parallel range of mental activity, which we have named imagination, is one in which the mind is still more eminently productive. The term imagination, we are aware, is often applied to a lower degree of mental power; but we think that it is far more appropriately confined to that higher energy which, while dealing directly with sensible images, and so far standing on a lower intellectual platform than the understanding, yet even, in its ordinary flights, carries with it often all the special activities of the understanding—abstracting and generalising and classifying its appropriate objects, as it weaves them into new forms of interest or beauty.† It is this formative or

* See MORELL'S *Elements of Psychology*, p. 183-184, in which the peculiar functions of what he calls the sematic power are exhibited with great clearness, and to which the writer has, in these few paragraphs on the understanding, been considerably indebted.

† This would seem to imply that the imagination can only be rightly treated after the logical faculty whose special process it presupposes. And this we apprehend to be the truth. Mr Morell, in his recent work—admirable in many respects—has not, according to our view, sufficiently distinguished imagination. The term is applied by him to two mental processes, the lower of which appears to be simply equivalent to what Stewart called conception, or the power we possess of holding our ideas before us, separated from all immediate reference

creative element, certainly, which is the constitutive one of imagination in the highest sense. It may not inaptly be considered to be the mental energy in its greatest heat of productivity; not merely, as in argumentation, constructing within the province of the abstract, building up some linked structure of sequential beauty; but constructing within the province of the possible, and building up some "sunny dome," outmatching the most subtle combinations of the understanding. It is impossible for any to attend for a moment to the simplest exercise of imagination, as it transacts itself even in those day-dreams which almost all have, without perceiving that the main element of the exercise is thus creative. The imaginative process is also an intensely vivid one; but it is not, as some have thought, its vivacity which pre-eminently distinguishes it from other phases of mental representation. This is merely the gleam which the mental wheel emits in its glowing activity—the flash of the intensely-quickened formative process. But it is the formative element itself, and not its attendant light, which constitutes imagination. It is the gift of *creation* which makes the painter and the poet,—the workmen of the

to place or time; and the higher (which he calls productive or creative imagination) is with him apparently nothing else than the general process whereby the mind associates its ideas. This confusion of imagination with the general power of association is, it appears to us, quite mistaken. For the process of the recovery of our ideas, transacted under the guide of the laws of association, does not necessarily involve a special creative element. The mind may, in this process, be simply recollective, although, no doubt, it often also is eminently productive. Association may in any case, therefore, readily pass into imagination. Yet in all cases imagination is something specific and superior; rightly ranking even above the understanding, because carrying up the processes of the latter into all its more characteristic and important exercises.

imagination. The vivacity is merely the bright accompaniment of the gift.

There is thus a striking alliance, and an equally striking diversity, between the mental powers of ratiocination and imagination. The one gives us science, the other art. The one is the organ of discovery, the other of inventiveness, in the noblest sense. The one deals with notions (concepts), the other with images (pictures), conveyed through the medium of the senses. From the intimate connection of imagination with the senses, making them, as it does, directly tributary in its highest workings—whereas the mind, in reasoning, ranges only among its pure ideas—the former might be supposed to be the lower faculty. Yet, from the spiritual regions into which imagination can carry its flights, it undoubtedly asserts for itself the loftier place and dignity in the end. It enters into the infinite, which is throughout a forbidden sphere to the understanding; and, mediating between the appropriate inspirations of spirit and of sense, the minister of both, it only reaches its true glory when clothing the lower intuitions in the celestial garment of the higher.

In reverting, in conclusion, to their specific bearing on our subject, how powerfully do both these forms of mental energy express the Divine wisdom and benevolence! how directly do they speak of an infinite source of mental fulness and strength! That high power of reflective investigation which has constructed the vast and ever-expanding edifice of human science, and searches with so penetrating an insight and so

powerful a range the heavens and the earth, to make them tributary to its purpose; and that still more marvellous capacity, a delegated creator within its sphere, which has wrought such exquisite combinations of poetry and of art, accumulating treasures of wisdom and of beauty to our race —surely these bespeak a Master Mind, whose image they are, and whose beneficent glory they reflect.

§ II.—CHAPTER XIII.

EMOTIVE STRUCTURE IN MAN.

We pass finally, in this section of evidence, to a brief consideration of the emotive sphere of our nature, which is very rich in results for our purpose. It is its emotional capacity which imparts to human life all its peculiar and ever-freshening interest. It may be possible to conceive a being made capable of intellectual without emotional activity. "We might, perhaps," says Dr Thomas Brown, "have been so constituted with respect to our intellectual states of mind, as to have had all the varieties of these, our remembrances, judgments, and creations of fancy, without one emotion. But without the emotions which accompany them, of how little value would the mere intellectual functions have been! It is to our vivid feelings of this class we must look for those tender regards which make our remembrances sacred — for that love of truth and glory and mankind, without which, to animate and reward us in our discovery and diffusion of knowledge, the continued exercise of judgment would be a fatigue rather than a satisfaction; and for

all that delightful wonder which we feel, when we contemplate the admirable creations of fancy, or the still more admirable beauties of their unfading model—that model which is ever before us, and the imitation of which, as it has been truly said, is the only imitation that is itself originality. By our other mental functions we are mere spectators of the machinery of the universe, living and inanimate; by our emotions we are admirers of nature, lovers of men, adorers of God. The earth, without them, would be only a field of colours, inhabited by beings who may contribute, indeed, more permanently to our means of physical comfort than any one of the inanimate forms which we behold; but who, beyond the moment in which they are capable of affecting us with pain or pleasure, would be only like the other forms and colours which would meet us wherever we turned our weary and restless eye; and God himself, the source of all good, and the object of all worship, would be only the Being by whom the world was made." *

The truth is, that while it may be possible for us to imagine intellectual life apart from emotional, we cannot imagine any development of the one without the other; for the advancement of knowledge and of civilisation, if the direct product of our intellectual, is no less truly the indirect product of our emotional nature, the one being called into activity all along its course only by the other. All the progressive springs of humanity take their rise in our emotional being. In virtue of it alone do we own the spur of a happiness which is never satisfied, and of a glory which is

* BROWN'S *Lectures*, tenth edit., p. 339.

still distant. In the very fact, therefore, of our combined emotive and cognitive activity, we are bound to recognise the wisdom and goodness of the Creator. How blank and unbeneficent would life have been as a mere round of passionless intellectuality! Where would have been all that now makes its charm, and renders it, amid the gathering darkness of death, still dear? Where would have been all the most exquisite products of literature and of art, without passion to portray or interest to kindle? And we must surely, then, acknowledge the beneficence of the Hand which has clothed life with all those soft and tender attributes—that garment of ever-varying emotion which makes it truly life. Here, indeed, we shall find the most abundant traces of the Divine goodness.

We do not attempt any systematic analysis, far less any exhaustive classification, of the emotions. Here, as everywhere, our purpose only requires, and our space can only afford, a general glance at the phenomena which crowd upon us.

Among the lowest and most universal group of emotions seem to be those which serve to guard, and, so to speak, intrench life, of which Alarm on the negative side, and Anger * on the positive, may be considered the generic expressions.† Throughout the whole course of animal

* We are sensible that these very names already suggest an inference unfavourable to the benevolence of the Creator. But here, as before, we must ask a postponement of judgment as to the hostile suggestions which everywhere necessarily arise with the very first statement of the evidence for the Divine goodness.

† See Dr M'Vicar's ingenious and highly philosophical *Inquiry into Human Nature*, which the writer has very advantageously consulted on this part of his subject.

life these emotions are found deeply implanted. In the feeblest animal forms, alarm is seen manifesting itself on the approach or the contact of any unknown object. And as we rise in the scale of being to man himself, the motive becomes, indeed, less obtrusive in its modes of operation, more refined and disguised in its character, but not less really present and powerful. It lives a silent yet watchful sentinel in every human bosom, conservative not only of life, but of all that gives beauty and dignity and happiness to life. How vividly, for example, does it reign in the mother for the care of her offspring; in the householder for the care of his goods; in the citizen for the care of the commonwealth; in the maiden for the care of her virtue! It is everywhere the guardian of life and its treasures. Whenever life becomes intensified, fraught as with a deeper wealth and fulness of possession, there alarm, however undemonstrative, stands a more vigilant guardian. And did it not do so—were the soul not readily fluttered and put up when destruction threatened—what an invaded and desecrated thing would life soon become!

The continuation of alarm—not merely the first movement or flutter of the soul, but the prolonged emphasis of the emotion—becomes fear,—apprehension,—inciting to escape from danger. The object of alarm, if not removed, has a constant tendency thus to pass into an object of fear. Terror, which sometimes stands for the generic emotion, seems certainly more correctly regarded as its highest excess, betokening the comparative feebleness of the subject of it.

The danger is so imminent and threatening that the mere guardian impulse loses itself in that species of convulsive agitation which we specially denominate terror. Panic, again, is contagious alarm. The simple emotion has a tendency to propagate itself from heart to heart, and as it propagates, it kindles into intenser forms, till it becomes that general and helpless movement of fear which we call panic.

Along with this class of emotions may be reckoned another class, different in character, yet also allied, as revealing something of the same cautionary character. Of this class, surprise and wonder may stand as specimens. These emotions we experience on the presentation of some new, striking, or unexpected object. We pause and are arrested, but do not, as in alarm, feel any impulse to retreat. Where the exciting cause is not novelty, or unexpectedness, but something great, unknown, and but dimly suggested, wonder becomes awe. These emotions are not, like the preceding, directly conservative, but they involve a conservative element; and it is remarkable that they all readily pass over into alarm, or some of its directly associate feelings. They all tend to drive the soul backward within itself; while yet, by a strange paradox, often marking (as all true and comprehensive observers know) the deepest facts of nature, they also tend to draw it forth and detain it before the exciting object. It is this balance of movement, the oscillation of backwards and forwards, of retreat and advance, which makes the pause so characteristic of these emotions.

The great generic emotion of anger is perhaps even more

actively conservative in its character than alarm; for it is positive, while the latter is only negative. It furnishes weapons of defence, while the other only instigates to flight. Dr Thomas Brown has described it very finely and eloquently under this point of view. So obviously is it the view under which it falls to be considered, that all which he says regarding it is little more than a representation of the beneficial ends which it thus subserves. "There is a principle in our mind," he says, "which is to us like a constant protector—which may slumber, indeed, but which slumbers only at seasons when its vigilance would be useless—which awakes, therefore, at the first appearance of unjust intention, and which becomes more watchful and more vigorous in proportion to the violence of the attack which it has to dread. What should we think of the providence of Nature, if, when aggression was threatened against the weak and unarmed at a distance from the aid of others, there were instantly and uniformly, by the intervention of some wonder-working power, to rush into the hand of the defenceless a sword, or other weapon of defence? And yet this would be but a feeble assistance, if compared with that which we receive from those simple emotions which Heaven has caused to rush, as it were, into our mind for repelling every attack. What would be a sword in the trembling hand of the infirm, of the aged, of him whose pusillanimous spirit shrinks at the very appearance, not of danger merely, but even of the arms by the use of which danger might be averted, and to whom, consequently, the very sword, which he scarcely knew how to grasp, would be an additional cause of terror, not an

instrument of defence and safety? The instant anger which arises does more than many such weapons. It gives the spirit which knows how to make a weapon of everything, or which, of itself, does without a weapon what even a thunderbolt would be powerless to do in the shuddering grasp of the coward. When anger arises, fear is gone; there is no coward, for all are brave. Even bodily infirmity seems to yield to it, like the very infirmities of the mind. The old are, for the moment, young again; the weakest vigorous." *

Resentment is the deepened and prolonged form of anger; and where the simple emotion might be impotent for the defence of invaded rights, this becomes a formidable guardian of them. Those who might brave the temporary heat of anger, would yet shrink from the sustained energy of resentment.

Indignation, in the twofold import which it seems to bear, is simply a modification of anger. As an individual emotion, it may be defined to be anger restraining itself from a sense of the unworthiness of the object exciting it—as when we feel indignant at some affront offered us—a kind of magnanimous anger. But it seems to be most characteristically a social emotion—anger propagating itself in the social body, at the sight or the recital of some great wrong done. In such a case the common heart is stirred, and drawn forth in an attitude of resistance. The injury committed kindles a widespread feeling, which gathers strength as it passes from heart to heart, and finally flames forth in a glow of indig-

* Brown's *Lectures*, tenth edit., pp. 419, 420.

nant opposition, before which the sternest injustice must tremble, and which is undoubtedly one of the strongest safeguards of social virtue and happiness. At the same time, as Dr Brown has acutely pointed out, there is an admirably benevolent provision in the working of this emotion, whereby it is prevented becoming that inconvenient and excessive sentiment—passing over into acts of injustice, perhaps worse than those against which it was directed—which it would be otherwise ever apt to become. It is only by some very flagrant wrong that it is powerfully excited, and, for the most part, it tends speedily to expend itself. Were it different —were members of the same community not only disposed to share in feelings of anger for each other's wrongs, but to experience such feelings with the same readiness, and in the same proportion, as the special sufferer, the consequences would be utterly destructive. There would then be no check to individual anger, which, propagating itself with an ever-kindling force, would swell to a mischievous and overbearing height. Indignation would no longer be a privilege, but an intolerable burden. "The zeal of the knight of La Mancha, who had many giants to vanquish, and many captive princesses to free, might leave him still some moments of peace; but if all the wrongs of all the injured were to be felt by us as our own, with the same ardent resentment and eagerness of revenge, our knight-errantry would be far more oppressive; and though we might kill a few moral giants, and free a few princesses, so many more would still remain, unslain and unfreed, that we should have little satisfaction even in our few successes.

How admirably provident, then, is the Author of our nature, not merely in the emotions with the susceptibility of which He has endowed us, but in the very proportioning of these emotions so as to produce the greatest good at the least expense even of momentary suffering." *

In ascending among the higher emotions, which no longer merely tend to conserve life, but to develop and advance it, we reach a region where the unceasing confluence of the phenomena seems almost to defy attempts at analysis and grouping. The simplest which present themselves are, perhaps, those of which the element of complacency or satisfaction may stand as the type. This element of emotion might have taken first rank in our enumeration, both on account of its comprehensiveness, and its being so directly suited to our purpose. It abounds in the lower animals, displaying itself in frequent playfulness and pervading happiness. In man, its range is very diversified, from the mere rude contentment which is half corporeal, to the cheerfulness which sheds a daily sunshine on the heart, the gladness which claps its hands, the delight which flashes with a quick and outbursting warmth, the most exalted joy, and the most spiritual rapture. It may be called the normal expression of the emotional power. It marks the tone which in health and security this power gives forth—just as pleasurableness, in the same case, is the proper expression of sensation. The natural condition of the one and of the other, when no invasion has taken place of the life which they manifest, is a feeling of enjoyment. This, as already observed, is a fact of

* Brown's *Lectures*, tenth edit., p. 421.

the highest significance for our subject, speaking, in the most convincing language, of the goodness of the Creator of a life so fraught with happiness.

It is true that here, as along the whole line of sensibility, there is an opposite side—a shadow tracing the brightness. There is a parallel group of emotions of an antagonistic character, at least as varied in their range as those of which we have been speaking—from the tempered vein of sadness, and the quick acuteness of regret, to the dark brooding of melancholy, the vehement flow of sorrow, the bitterness of anguish, and the agony of remorse. But—not to speak of the strange element of enjoyment which often lies concealed in some of these painful emotions, nor yet, just now, of their disciplinary virtue, often converting them into the highest good—we merely point here to the fact of their being, as on their very front they so obviously bear to be, invaders of the natural life of emotion. They emerge as elements of disorder and conflict, interfering with the free flow of emotional activity, and so present themselves, from the first, as difficulties requiring a higher calculus for solution than that which their own nature simply affords. This is undoubtedly the meaning which such phenomena of suffering bear to all who most thoughtfully contemplate human existence. They are recognised as out of the course of the Divine order, as seeming contradictions to it, but not, by any means, as *per se* destroying that order, and making it a nullity. They are recognised as anomalies needing explanation (further than what they contain in themselves), but not as absolute contrarieties entitled to negative the good, with

which they appear at variance. To all who have gone beyond the mere surface of speculation, the good is felt, under whatever appearances to the contrary, to be the Divine order, of which the evil is an invasion.* The parallel existence of evil is not entitled to set aside the good, but only to arrest us in our full conclusions regarding it. It does not destroy our theodicy,—it only leaves it imperfect. The Divine meaning of nature, on the very lowest view, is not altogether doubtful and contradictory, but only incomplete.

There is an important class of emotions which relate themselves by an intelligible process to those now considered. Conscious complacency, or the simple emotion turned back upon itself in contemplation—what we commonly call self-complacency—would seem to be their common basis. Such emotions as gladness, joy, rapture, are eminently distinguished for their unconscious character. They are all self-forgetting. The emotive capacity in them overflows round some other object; and the moment the overflow ceases, and returns upon itself, the pleasurable feeling so far disappears. Happiness shrinks from self-contemplation; and we may thus see the rationale of the reaction that often takes place in pleasurable emotion of an excessive kind. The tide of feeling having passed far out, exhausting itself in the effort, is naturally liable to retreat upon itself to a corresponding extent. In the purely antagonistic emotions, as will be

* The bearing of this thought—which goes to the very root of Theism, and the logically consistent denial of which involves, as it may chance, Atheism or Pantheism—will be more fully considered in the sequel. So much seemed here inevitably suggested by the nature of the phenomena under consideration.

seen on the least reflection, self is all predominant and obtrusive. The emotive capacity, instead of passing forth towards another, is concentrated within; and it is this feeling of self-concentration which in melancholy, and especially in remorse, constitutes the characteristic misery of these emotions. In the class of emotions to which we now pass, the element of self appears also obtrusive, but not in the same way. It is not in them necessarily or characteristically associated with pain; on the contrary, the common ground of all of them would seem to be a reflex feeling of pleasure. Yet they have, it is remarkable, in their reflex character, a constant tendency to pass over to a painful excess.

Of this class of emotions, pride is one of the most distinguishing. In its most general form, it seems to be simply self taking the measure of its own claims alongside those of others. It always implies this element of comparison. When the comparison is made with fairness, we recognise the propriety of the feeling—as in the common expression, a proper pride. Where, again, the comparison is grossly mistaken and over-estimated by self in its own favour, the feeling assumes that excessive form, in which it becomes so odious to others, and often such a source of misery to its subject. Vanity seems again to be the simple pampering of self-complacency—self dwelling on its own image till it can scarcely find interest or beauty in any other.

Directly converse to such emotions are those of humility and modesty. The former may be defined to be the simple opposite of pride—the retirement of self from the assertion even of rightful claims which it might prefer before others.

It, too, seems always to involve an element of comparison; and, in a similar manner to pride, it may so greatly and obviously mistake the comparison as to become disagreeably excessive. The only case in which it can never do so, is in reference to the Supreme Being, before whom the most extreme retirement of self is not only appropriate, but demanded. And hence we recognise the primary importance of this emotion in religion. Modesty is also, may we not say, a species of self-denial — self shrinking from the acknowledgment of claims of which it is yet dimly conscious. It is self-repressive, peculiarly; and yet self does not, as in humility, retire out of sight. It is this curious balance of emotion, in which self is negatived, and yet, with a vaguely conscious justice, stands forward (the internal conflict betraying itself in the suffusion of the face with blushes), which gives to modesty that special charm which all recognise in it.

The large and diversified group of emotions of which tenderness is the most diffused element, and love the most expressive type, may next engage attention. They operate over human life with a vast influence, and invest it with its most solemn and beautiful interest. They are all of a social character, binding the race into families, and pervading it from rank to rank with reciprocal relations of the most happy and beneficent kind.

There is no range of emotion more enlarged or more minutely subdivided than this of tenderness, not to speak of the antagonistic range of emotions which here also lies alongside. All the affections are based on it, from the mere

fondness of infancy to the exquisite passionateness of sexual and parental regard. It embraces equally the tranquil interest of friendship and the lofty zeal of patriotism. It is the chord which vibrates in the warm-heartedness of the host, the geniality of the old schoolfellow, and the kindness of neighbourhood. Compassion and sympathy are among its most influential manifestations, springing from a fountain of good in the social bosom, and spreading around them, as they flow, unnumbered blessings. Respect, esteem, veneration, blending as they do to a greater or less degree merely intellectual elements, may all be traced back to it; and finally, worship is best expressed by the name of love, in which at once the emotion culminates, and of which throughout it testifies. This form of moral feeling is the flower of the emotive capacity. It is the richest and worthiest outgoing of man's spiritual activity, the course of which is everywhere and always more continually beneficent, and which, in this its inexhaustibleness, or rather ever-accumulating force of good, contains the pledge of its own peculiar immortality. In its more special meaning it has been supposed * to imply not merely the going forth of good towards an object, but the meeting of good in that object, the term benevolence being used to express the love of that which in itself does not contain any love-worthiness. There is only, as it were, room for love after benevolence has accomplished its end, in bringing the object into a state of wellbeing or love-worthiness. There is something in this distinction, and yet we question the propriety of so fixing down or confining the name of love.

* Dr M'Vicar's *Inquiry*, p. 127.

The distinction seems to us to be not between one species or shade of affection and another, but rather between a complete and incomplete enjoyment or fruition of the same affection. Love may certainly, in the purest and loftiest sense, go forth towards wretchedness, but it cannot, so to speak, complete itself towards it by embracing it till the wretchedness is turned away. So far, however, we apprehend, is love from being postponed till this result, that it is the very energy and activity of the love concentrated on the object which accomplish the result.

The pleasure which attends the exercise of the benevolent affections has been rightly considered a special proof of the Divine goodness. The mere existence of these affections sufficiently shows that goodness. The mere presence of love in human life, pervading and beautifying it in so many forms, attests the presence of love in the great Source of that life. But the fact of our not only having such emotions implanted in us, but of our deriving from their exercise such pure delight, while the gratification of the opposite evil emotions is accompanied with pain, is a fact of peculiar significance. For what is its language? Does it not say with clearest force that the good alone is divine? We are so constituted, that in imparting happiness through the channel of any one of the benevolent emotions, we ourselves experience happiness; while, on the contrary, through the indulgence of envy or hatred, or any other of the malevolent emotions, we ourselves suffer in imparting suffering. So radically is the good fixed in our natures that its violation thus avenges itself. Putting out

of question, then, in the mean time, how such evil affections emerge in human nature—looking only at its actual constitution—it seems impossible to imagine how it could have borne stronger testimony to the Divine goodness; for it not only expresses the good, but delights in it. The good is not only, notwithstanding all that may be said to the contrary, the most prominent fact in human nature, but it thus approves itself to be the only normal action of human nature. Our delight in welldoing says, as powerfully as it is possible to say it, that man was made to be good and to do good; or, in other words, that the Author of his being is good.

The partial happiness that lies in the indulgence of evil affections, expressed in the word gratification, equally used with reference to them, does not at all militate against this conclusion, for this is simply an accidental result of their accomplished activity. They and all our mental activities cannot express themselves successfully without a certain measure of enjoyment; but such is the essential destructiveness of the evil that its very gratification is in the end its most perfect misery. Its continued successes, affording a minimum of enjoyment all along its course—as in the case of the drunkard, or the continued gratification of hatred or cruelty—become its accumulating curse. Nature thus everywhere bears her testimony against the evil, stamping it with her reprobation amid whatever apparent triumph—uttering her voice against it, however it may exalt itself—and so declaring, in the most emphatic and unceasing language, that the good alone is divine; or, in other words, that God is good, and alone loveth good.

The foregoing ranges of emotional activity are found for the most part represented throughout the sphere of animal existence, while yet only reaching their highest expression in man. We now approach a class of emotions which there is reason to think are peculiar to the human mind—a class which, for our general purpose, may be sufficiently designated as the emotions of taste—including our sentiments of harmony, beauty, sublimity, and their opposites. We can only here indicate the fact of these emotions, and their bearing on our subject; their analysis, it is well known, involving some of the most keenly-contested problems in psychological science. It is sufficient, in our point of view, to observe their high use in man's constitution. They are, and have ever been, recognised among its most delightful springs of elevated progress. They minister purely to mental gratification and culture, and have no lower function in reference to our mere animal nature, a fact which sufficiently accounts for their being confined to man. This feature of the emotions of taste has been pointed out with his accustomed acuteness by Dr Thomas Brown, and the appropriate theological inference so well expressed by him that we gladly avail ourselves of his language.* "In no part of our nature," he

* Apart from the appropriate beauty of Dr Brown's language, we have not hesitated, on another account, to avail ourselves of it to the extent we have done in this chapter. It is peculiarly satisfactory to present the conclusions for which we naturally seek in the words of one to whom they came by force of their own clearness and strength, while engaged in the mere analysis of the phenomena, without any view to their theological meaning. It has seemed an advantage that it should be thus clearly seen that we are not led to impose a meaning on the phenomena which they do not in themselves naturally and irresistibly suggest.

says, "is the pure benevolence of Heaven more strikingly conspicuous than in our susceptibility of the emotions of this class. The pleasure which they afford is a pleasure that has no immediate connection with the means of preservation of our animal existence; and which shows, therefore, though all other proof were absent, that the Deity who superadded these means of delight must have had some other object in view in forming us as we are, than the mere continuance of a race of beings who were to save the earth from becoming a wilderness. In consequence of these emotions, which have made all nature 'beauty to our eye, and music to our ear,' it is scarcely possible for us to look around without feeling either some happiness or some consolation. Sensual pleasures soon pall even upon the profligate, who seeks them in vain in the means which were accustomed to produce them, weary almost to disgust of the very pleasures which he seeks, and yet astonished that he does not find them. The labours of severer intellect, if long continued, exhaust the energy which they employ, and we cease for a time to be capable of thinking accurately, from the very intentness and accuracy of our thought. The pleasures of taste, however, by their variety of easy delight, are safe from the languor which attends any monotonous or severe occupation; and instead of palling on the mind, they produce in it, with the very delight which is present, a quicker sensibility to future pleasure. Enjoyment springs from enjoyment; and if we have not some deep wretchedness within, it is scarcely possible for us, with the delightful resources which nature and

art present to us, not to be happy as often as we will to be happy." *

There is a further large group of emotive powers, whose special significance in human life will by no means allow us to pass them by. They are distinguished from those previously reviewed by a special character of activity and complexity. The mind no longer simply feels, but *desires*. A special energy has arisen in the bosom, of some simple mental experience, which goes forth, often with great force, in search of its object. The desires, therefore, in the emotional sphere, are parallel to the appetites in the sensational. In both, the attitude of the mind is no longer merely that of feeling, but of wishing.

Desire is almost endlessly diversified, according to its objects, which it were in vain to try to enumerate. Dr Brown has summed up the more general and important forms of desire in a tenfold series. But if it were necessary for us to attempt such an analysis, it would be easy to reduce them to a broader and more general basis. We are inclined to think, indeed, that, according to a right interpretation of the first of Dr Brown's series, all the others might be considered simply modifications of it—viz. the desire of life. If we understand life to mean the sum not only of physical but of mental existence—a sense in which we may say it is parallel with happiness (everywhere, as we have seen, its proper correlate)—all our desires will be found to be only various forms of the desire of life, or, in other words, of pleasurable activity. Desire only responds

* Brown's *Lectures*, pp. 393, 394.

to pleasure in some shape or another. Whatever may be the object, it is only as it is seen to be pleasurable that it is desired. The desire of life, therefore, in our sense, may be made to include every other mode of desire.

Dr Brown, indeed, seems to think that there may be a desire of life—of simple existence—apart from any consideration of pleasure;* but it appears to us that he has here confounded, with what alone can be properly called the desire of life, the simple movement of self-preservation. This latter, however, has no title to stand as an emotion—it is a mere blind ineradicable instinct. It is so truly ineradicable, and almost physical in its character, that it may be found asserting itself even in the hour of self-destruction. The desire of life, on the contrary, is a special mental feeling, entertained and cherished with various degrees of force, and capable, in certain cases, of being altogether overpowered and destroyed. And what are our desires of pleasure and of action (the second and third of Dr Brown's series), but the desire of intenser forms of life? And our desire of knowledge, what is it but simply the desire of life in a more exalted and interesting character than hitherto experienced? And so of power, which is only the equation of knowledge; and equally of property, which is but another name for power. And again, what is the desire of society but the desire of life intensified in a different direction—viz. from contact with other life? As life is essentially active, so is it essentially circulatory—only reaching its full being in mingling and sharing

* *Lectures*, p. 438.

with other life. The desire of life, therefore, involves the desire of social contact and circulation. And in a being of intelligence and morality like man, we cannot imagine this desire of contact with other life—of sharing and mingling in it—without the desire of also approving himself to it. Hearts meeting (which is just moral life in circulation) cannot but seek to commend themselves to each other; and what is this but the desire of the affection and esteem of others? And in this way we have run over nearly the whole of Dr Brown's series.*

But desire is not only thus comprehensive as an emotion in relation to its objects; it presents itself, moreover, in various important modifications—such as hope, expectation, confidence, and ambition. Hope is one of the most pervading, as it is one of the most delightful, of all our emotions. It is also one of the most thoroughly educative of them all, ever keeping the soul in an attitude of forwardness—ever embellishing with bright visions the dim future, and quickening it in their pursuit. It is hope alone which sustains and upholds us amid the actual difficulties of life. Desire alone would have been comparatively inadequate for such a purpose, as it relates the soul to its object merely in an attitude of liking—it says merely that the object is good; whereas hope represents the object not only as good, but as within reach—not only as likeable, but also as attainable. Hope is, therefore, not only "desire intensified"

* It is needless to say that we do not claim for this analysis any scientific worth. It may seem, indeed, that in making the desire of life, as pleasurable activity, the type of our various desires, we are merely saying that desire, in all its forms, is desire.

(this will not give in its full character the complex emotion), but desire with a new element of strength in it, which enables the soul to go forth towards its object, not only with additional eagerness, but already, as it were, in prospect to lay hold of it. When we hope for an object, we always, indeed, desire it intensely; but we have also already a deeper interest in it—a more personal relation to it, so to speak—than any mere desire can give. In expectation, again, we have a still firmer and more secure relation to the object, and confidence is the height of expectation. Ambition, on the other hand, would seem to be the mere over-growth of desire, carrying the mind forward towards its object with an energy which no obstacles can turn aside.

Curiosity is a special form of the desire of knowledge so important as to deserve separate mention. It is undoubtedly one of the most provident and benevolent principles of our mental constitution. It is the harbinger of intelligence in the infant breast; and, nursed by continually new incitements, it becomes the ever-strengthening spring of mental progress. It may be truly said to be inexhaustible in its workings, pausing merely to collect itself for a fresh advance, and—what especially serves to reveal the benevolence of the hand which implanted it—evolving ever, as it operates, fresh pleasure. "Can anything," says Lord Brougham, "be more perfectly contrived as an instrument of instruction, and an instrument precisely adapted to the want of knowledge, by being more powerful in proportion to the ignorance in which we are? Hence it is the great

means by which above all, in early infancy, we are taught everything most necessary for our physical as well as moral existence. In riper years it smoothes the way for farther acquirements to most men; to some, in whom it is strongest, it opens the paths of science; but in all, without any exception, it prevails at the beginning of life so powerfully as to make them learn the faculties of their own bodies, and the general properties of those around them—an amount of knowledge which, for its extent and its practical usefulness, very far exceeds, though the most ignorant possess it, whatever additions the greatest philosophers are enabled to build upon it in the longest course of the most successful investigations." *

The phenomena of desire, generally, are among the most characteristically benevolent in their intention of any in the human constitution. Apart from them, it may be possible to conceive human life prolonged through the force of the mere instinct of preservation, emotionally defended on all sides as it is; but, without desire, how stupid and aimless a thing would life have been! The greatest intellectual capacity would have been a mere slumbering potentiality—a mere vague dream, or rather nightmare, of power, from which there could have been no awakening. But, as it is, desire, expressing itself with the first movement of life, and strengthening with its growth, becomes the great educator of all our other activities. Under its quickening operation it is that the helpless child is trained to various degrees of manly or womanly culture and excellence—from the skilful

* *Discourse on Natural Theology*, pp. 55, 56.

craftsman to the lofty poet or philosopher—from the gentle doer of good deeds at home to the arduous and untiring philanthropist. It is thus truly the unslackening spring of human progress, relaxing not even in the hour of death; but, amid the withdrawal of all the objects of present desire, carrying the soul forward in hope and triumph to other and higher regions of mental and moral development.*

* "They desire a better country, that is, an heavenly."—Heb. xi. 16.

SECTION III.

MORAL INTUITIVE EVIDENCE.

§ III.—CHAPTER I.

MORAL INTUITIVE EVIDENCE.

THE theistic evidence universally runs back into a region of First Truths or Principles. It rests only on a definite spiritual philosophy, as we have seen in the outset. It remains to be further seen how it only attains to its highest force and significance in the same region. An attentive examination of certain features of our spiritual life will be found to yield a set of theistic elements of a peculiarly direct and important kind, which are necessary to complete our evidence, and to carry upwards the conceptions of power, wisdom, and goodness, already unfolded, into the full conception of God.

We deem it unnecessary to enter into any question as to the separate force and value of this department of evidence. All such questions are, according to our view, quite irrelevant. For the genuine apprehension of the theistic evidence is not that of a series of separate and independent proofs, but that of a great scheme of argument presenting itself under a variety of aspects. All special instances of design derive their conclusive force from certain principles;

and these principles again must be seen in practical manifestation, in order to bring before us a lively and clear impression of the Divine existence and attributes.

In assigning a distinctive name to this section, we do not mean, therefore, to detach it from our inductive scheme of evidence. We mean simply to point out the distinctive range of inquiry before us, which is sufficiently marked off from that in which we have been engaged. We are no longer merely to be concerned with facts from which we are warranted to infer Divine wisdom and goodness, but with facts which, in a peculiar sense, reveal to us God, which bring God before us intuitively, rather than in the ordinary inductive way. We enter among those prime elements of our spiritual constitution which are the appropriate organs of the theistic conception. This conception, in its radical form of *cause*, took its rise in this region, and here no less is it found to complete itself.

This may serve to explain the views of some of our highest thinkers as to the supposed conclusive force of the moral, in comparison with all other evidence for the being of a God. Kant, after submitting to a destructive criticism all the other modes of theistic evidence, as separately apprehended in his day, made the existence of God a postulate of our moral being; and Sir W. Hamilton has expressly said that "the only valid arguments for the existence of a God, and for the immortality of the human soul, rest on the ground of man's moral nature."* Now, in so far as such views merely imply that to the region of moral conscious-

* *Philosophical Discussions*, p. 595.

ness must be traced the foundation of the theistic argument, and its peculiar seat, we are prepared to coincide with them. But we cannot assent to any view which would limit the evidence to this region. It finds here its peculiar home; but it by no means stops here. Springing from the depths of our moral consciousness, it is taken up by the intellectual common sense; and the special argument from design is neither more nor less than the application which is thus made of the primary theistic principle. It becomes us not to forget the origin of the principle—through which alone the idea of design is tenable—but it becomes us also to acknowledge the appropriate value and the clear and impressive bearing of this idea, as applied to the display of the Divine attributes. The theistic evidence is only seen in its full strength when it is thus recognised in its full comprehensiveness.

§ III.—CHAPTER II.

FREEDOM—DIVINE PERSONALITY.

THE fact which demands our consideration in this chapter is of the utmost importance, not only in respect of the theistic meaning which still remains to be drawn from it, but as constituting, moreover, the real foundation of our whole evidence. For already, in our preliminary chapters, its reality was presupposed, and the weight of our initiative conclusion made to rest upon it. It is, therefore, eminently the theistic fact round which, as their rational nucleus, all the others gather.

The exact character of the fact is to be carefully kept in view. It is of this sort: Is man's rational being essentially distinct from nature? Does it constitute a source of activity, in a sense altogether unique and contradistinguished from any other movements we perceive in nature? While the latter, through all its range, is a mere series of sequences, of arrangements, and re-arrangements, in the same unbroken flow, is there in man something wholly different, which cannot be resolved into any mere play of sequences, but

constitutes a source of power? Is there, in short, a soul in man? This seems to us the last and simplest reduction of the question. According to the affirmative view of this question, mind, in its full meaning, is not only something specifically different in its manifestations from matter, but something in its root and character essentially contradistinguished from matter. In the various forms, indeed, in which it expresses itself, or becomes phenomenal, it obeys the same law of sequences which obtains among all other phenomena; but in its spring and source it wholly evades this merely natural law, and refuses to be bound by it. It is only in this apprehension of mind that we found that fact of efficiency with which we set out, and without which our argument has no rational basis whereon to rest.

This fact of a free rational activity, or soul in man, is implied in every form of spiritual philosophy, and appears to constitute the essential basis of all theology. It has, however, beyond doubt, been greatly obscured by certain views which have long held sway, both in philosophy and in theology. These views have been all the more powerful that they express so far an undoubted truth, and have been supposed to bear with a peculiar effect upon the confirmation of certain Christian doctrines. In so far as they can be held consistently with our fundamental position—and we cannot imagine any Christian necessitarian denying that position—we have, of course, no controversy with such views. It must at the same time be observed, and deserves to be carefully considered in such a discussion as the present, that whatever consistency there may be between a true doctrine of neces-

sity, and that assertion of a free rational activity in man which is the basis of our argument, and however that doctrine may be authorised by great names, it is yet in no sense a Christian doctrine ; and that those truths of Scripture, in whose defence it has been supposed to be triumphantly wielded, are wholly independent of any logical strength thence derived, as they had, in fact, assumed their place in the great scheme of Protestant belief long before any of those formal enunciations of the doctrine of necessity, to which so much weight has been attributed.

The best way of clearing up the bearing of such views upon our position will be by a brief re-statement and examination of it. We shall approach it from facts formerly reached. Already, in the mere presence of sentient and even organic life, we found, in some sense, a centre of action. Every such existence develops itself from within. But this development is, in such cases, bound to an immutable necessity of nature. It is throughout physically conditioned. The evolution of self is, on this lower platform of life, a mere determination of natural causes. The question before us is one which concerns the character of this self-evolution in man. Is it in him nothing more than it is in the lower animals — the mere play of nature, "the mere result of physical succession;" or is it something wholly peculiar, and, if not independent of nature, yet by no means subject to it? Do we find, in short, within us not merely a power of action, under the impulse of physical causes, but a power of action which owns no law *ab extra*, but is what we call free? That we have some such power of free action, not merely a

feeling of self, which would seem to be the condition of all mental existence, but a feeling of what has been called self-determination or choice, cannot admit of dispute. Every one must allow that he has such a power of doing what he will. All language and all social practice imply so much.

But this, it is said, is little to the point: for while it is admitted that man seems to act freely—nay, that, in a certain sense, he does so act—it is nevertheless true that his action always follows the strongest motive, just as effect follows cause. Inasmuch as he cannot act without motive, the motive felt by him to be the strongest at the time, and under which he does act, is the cause of his action. His rational activity analysed is found to be everywhere encompassed by a subtle atmosphere of motives strictly and rigorously conditioning it. All the particular facts of his mental life are thus only links in a great chain of necessity, although he may not feel them to be so. The law of cause and effect obtains among them, and binds them all, no less surely than it is found to regulate and control all other facts. In these views there is an amount of truth which none now dispute, however they may object to the language in which it is sometimes expressed. It is undeniable that man's intellectual and moral being, in all its most subtle and complex manifestations, shows the same order that we everywhere discover in nature. It was our special aim, in previous chapters, to expose, in some degree, this order. If this, therefore, be all that is anywhere meant by the doctrine of necessity, that doctrine must be held as expressive of an important truth. But something far more than this is maintained by most

necessitarians, and seems to be logically implied in the doctrine. They mean not only to assert that man's rational activity displays itself under the same law of cause and effect as the course of nature does, but that there is really nothing more in it than this display. Volition goes forth under motive; motive, again, is dependent on organisation, or at least on some external cause; and this is all. The whole question plainly lies in this higher region. What constitutes motive? What is the spring of the order which is universally admitted to obtain among the facts of man's spiritual being, no less than among all other facts? Is that spring in nature, and bound to its immutable sequences? or is it deep in the central being of the man himself, and essentially separated from nature? The materialistic necessitarian holds as his cardinal principle the former of these views. He knows nothing beyond the mere series of phenomena which collectively he may call Mind. Any spiritual unit or soul beneath the multiplicity, and therein expressing itself, while yet essentially distinguished from it, has no place in his system; and quite consistently so. The theological necessitarian of course shrinks from this conclusion, but his language has not unfrequently been such as to bear it out. Carrying up with an iron hand the phenomenal law of cause and effect into the region of spiritual life, he may have seemed to gain a temporary triumph over an adversary; but he has done so too often at the risk of total peril to his faith, and to the very ground and condition of all religion.

The true advocate of liberty, on the other hand, simply maintains that in the last resource the mind or soul is

unconditioned by any natural cause. The self-conscious reason, or ego, is incompressible by the law of phenomena. It only is, and lives in opposition to that law. The spring of the soul's activity is ever within the soul. It displays itself, no doubt, serially, in regular obedience to the strongest motive; but the strength of the motive comes from within, from the soul's own preference; otherwise it would be truly no motive, but would for ever remain a mere inducement or solicitation presenting itself to the mind. It is always the mind's own act that changes a mere inducement into a motive, and leads to action. According to the well-known pithy saying of Coleridge, "it is not the motive makes the man, but the man the motive."

The liberty thus defined, it may deserve to be remarked, is entirely different from the old imagination of a liberty of indifference. This latter represented the mind, as it were, *in equilibrio*, till it put forth the power of choice among the motives bearing upon it. It placed the soul, as it were, on one side, and motives on the other, and pretended to give an explanation of the mode of action between the two. The true theory of liberty makes no such pretensions; it knows nothing of the soul save as active. An abstract potentiality, which of its own sovereignty keeps itself apart from motives, or yields to them at pleasure, is in no respect recognised by it. It simply contends, that in every case of actual human conduct the motive power is from within the soul itself, and not in any respect physically conditioned. It simply says that man is free to act, but it does not pretend for a moment to explain the mode of his freedom. This it so little does

that it acknowledges the fact of human freedom to be in its very character inexplicable.

This character of mystery—of irresolvability, under the great inductive law of cause and effect — comprises, in truth, all that can be argumentatively said against the doctrine of liberty. The fact will not come within the conditions of our logical faculty, and must therefore be repelled. But this is a thoroughly vicious mode of argument: for, by the very supposition, the fact transcends these conditions; and to reject it on this account is simply to beg the whole question. If this fact be at all, it is primary and constitutive, and therefore not to be reasoned to, but from. It stands at the head of our rational nature as its source. And as such a source—as the inherent activity whence all our mental modes are born—the fountain whence they flow—the me, of which they are the varied manifestations—it defies the application of that inductive law under which they arise, and for the very reason that it is what it is—not any one of these modes, but the root of them all—not any of the manifold sides of consciousness, but the unity in which all its sides centre. In this view it is not only not wonderful that we cannot understand freedom, but the fact is such in its very idea that it is impossible we ever can understand it, transcending as it necessarily does that logical power of which it is the condition. Thus apprehended in its primitive distinction, it leaves us no alternative but to abide by it in its necessary incomprehensibility. It is there—we are bound to recognise it. But we have no claim to comprehend it, for (as logicians) we do not contain it—it contains us. Whatever we are in our mental and practical

character is just the expression of this mysterious personality, to which all our activity leads back, and from which it all flows.

It is as the irresistible testimony of consciousness that this fact forces acceptance. It attests its reality within us, and we cannot get quit of it under whatever ingenuity of explanation. On this ground the advocate of liberty has an advantage which is wholly indisputable; for that we feel ourselves to be free, none can truly deny. This feeling—our deepest and most ineradicable consciousness—the doctrine of necessity cannot accept as a fact; or, if it does, we have no dispute with it; only we do not see how it can consistently maintain itself if it does. For the feeling cannot represent a reality, and yet man's spiritual, no less than his material being, be held as naturally determined. In such a case the feeling can only be an illusion, and man a bondman, wholly a creature of nature, howsoever he may seem every moment to create a circle of free activity around him. But if consciousness be thus held false, man is cast adrift on an ocean of utter uncertainty. Truth becomes for him a mere dream, if the voice within him be held incompetent to give it valid utterance.

The deliverance of consciousness is, on the contrary, held by the advocate of freedom to be at once decisive and ultimate on the point. It is not, in his view, any mere dim experience which disappears under analysis, but a truth which makes itself good under whatever logical assaults. The alternative is simply one of fact. The human consciousness either tells the truth absolutely, unheeding how it may clash with some other truth in the dim-lighted chamber of

the logical understanding, or it must be admitted to be false. No saving clauses of ingenious explanation will avail. Man is either free really, or he is not free. There is in him a centre of action wholly peculiar, a naturally undetermined source of activity, otherwise his deepest experience belies itself, and his moral nature is a devout imagination. There is nothing but the recognition of such a free agency in man, however mysterious and unaccountable, that can preserve to him faith in himself, or the perilous dignity of responsibility among the creatures of earth. If he has not in a true sense such a power of action springing from within his own spiritual being, his consciousness deceives him, and he is and can be nothing else than a mere irresponsible link in the chain of phenomena.

As the only rational means of escape from such a conclusion, consciousness must be held in its attestation of freedom to express a reality, to declare a truth, admitting of no exception, however ingeniously represented. Man must be recognised as free in a sense quite peculiar, separating him from all other earthly creatures. While owning, in the actual course of his thought and volition, the great phenomenal law of cause and effect, there must be admitted to be in him at the same time a mysterious centre of personality—nothing else than the soul, which withdraws itself from this law, and asserts itself against it.

What, then, is the bearing of this fact on our subject? As we previously said, it is the most vital for our purpose in our whole range of inquiry; but just corresponding with its peculiar depth and importance is the difficulty of fully seizing and expressing its significance. We have already seen

in what respect it lies at the root of our inductive evidence as the source of our idea of cause. The strange relation of affinity and yet conflict which thus emerges between the principles of personality and causality were an interesting subject of consideration, but cannot occupy us here.* We have at present simply to do with the direct import of the fact of personality in the enlargement of our theistic evidence. In tracing back our mental life, we have this fact as the last word for reason. The Me asserts itself as an inscrutable reality, beyond which we cannot go in the way of natural explanation. It refuses obstinately to be related to any higher fact, as a natural sequence. But have we not thus reached a startling conclusion? If the human ego be thus as it so clearly pronounces itself to be, a cause in the highest and indeed only true sense—viz. a naturally undetermined source of activity—is it not thereby, in its very character, its own author? If undetermined, is it not necessarily independent?

So far is this from being the case, that we here approach the very peculiarity of the theistic meaning which this prime fact yields us; for, in the very act of expressing itself, it is found to be its essential characteristic, at the same time, to express Another. It only realises itself in Another. The more we sink back into the depths of consciousness, and the more vivid force and reality with which we seize our personal being, as something unconditioned by nature, and rising above it, the more directly and immediately do we at the same time apprehend ourselves as relative and dependent. The more we become self-conscious, the more do we feel, at the same time, that the ground of

* See Note at the end of the chapter.

our existence is not in ourselves, but in Another and a Higher. Our personality, in asserting itself to be distinct from nature, yet with equal force asserts itself to be derived, or, in other language, to take its rise in a Principle above nature. The human self, in a word, irresistibly suggests a divine Self; the limited cause, an absolutely original and unlimited Cause.

It is true that we thus, in the last analysis, bring into special prominence the logical incomprehensibility which meets us in the testimony of consciousness. We realise ourselves as free, and yet dependent. Nay, in our very freedom we at the same time find our dependency. The more we sink into ourselves, the more do we feel ourselves to rest on a Higher. Just as we accept the testimony of consciousness in giving us liberty—the soul's efficiency for its own acts—so do we accept its testimony in giving a relation to this efficiency in the All-efficient. Let it be that we cannot construe to ourselves this relation intelligibly — cannot compass it in thought — this is no valid ground for rejecting either term of it. We can only do so by trampling upon consciousness, and exposing ourselves to the whole peril of scepticism. The facts must be accepted as given, however impossible it may be for us to join them logically together; and for this obvious reason, which, if it does not give satisfaction, ought yet to give resignation, that our mere capacity of thought cannot, in the nature of the case, be the measure of truth here nor anywhere. Great master in its own sphere (in the evolution and determination of all the forms of science), it must yet be content to be the minister of reality.

It is requisite to observe the full import of our conclusion. Our own personality not only gives another personality, but another which is at the same time absolute. It is, in fact, the special rational intuition of the absolute in the relative—the infinite in the finite—which carries us beyond the Self within, to a Self without and above us. How vital, in a theistic sense, this intuition is, must therefore be obvious. But it is not our aim at present to insist upon the reality of the infinite which thus dawns upon us. This reality will afterwards engage us separately. We would now rather simply fix attention on the fact of Divine personality, so vividly brought before us.

Of all the facts of Theism this may be said to be the most fundamental, as it is that in which all the others inhere, and find their life. It is a fact which already we had virtually found in the theistic conclusion which we established in our first section. For an intelligent First Cause, according to our mode of reaching and authenticating the idea, could only be a living Personality. This great truth of the Divine Personality, however, comes before us here with intuitive brightness. It reveals itself as the clear reflection—the *abglanz*, as the Germans expressively term it—of our own personality.* The Thou of our prayers rises in solemn reality against our own most hidden self-consciousness. Our

* Those who are familiar with the elaborate treatise of Dr Julius Müller on the *Christian Doctrine of Sin*, may recognise a similarity between the process of theistic reasoning in this chapter, and that contained in the second chapter of the first book of that treatise, p. 79, vol. i. *et seq.* The writer gratefully acknowledges his obligations to Dr Müller here and elsewhere. It will be seen, at the same time, that his own course of argument, in the present case, is sufficiently distinctive.

deepest life centres in Another, in whom alone "we live, and move, and have our being." In comparison with every other apprehension of God this apprehension of Him is immediate and decisive. We rejoice to trace Him also in nature; we gladden to greet His presence in every bursting flower, in every curious organism, in the heavens and in the earth. But while we only search in nature, we search as with veiled gaze, "if haply we might feel after Him, and find Him." It is only in the depths of self-reflection—within its most secret chambers—that we become conscious of His immediate presence, and know that He is "not far from every one of us."

NOTE.

There is a relation of the whole subject arising out of this chapter, which can scarcely fail to suggest itself to the speculative reader, and which may claim from us a passing notice, in case it should be supposed that we have overlooked it. The basis of our preliminary reasoning, it will be remembered, was the rational necessity that compelled us to find a cause at the head of nature. We cannot *conceive* a mere endless series of relative phenomena. We must have a cause or origin of the series; or, in other words, according to our whole view, an efficient Agent or Mind. Yet it is certainly true, as we have freely admitted in this chapter, that we cannot compass in thought, or *conceive*, in this lower sense, such an efficient agent. The argument seems to run up into a contradiction or antagonism of inconceivabilities. And if we confine ourselves to the sphere of mere thought or logical comprehension, there seems to be no escape from the contradiction. We are bandied about from one horn of the logical dilemma to another, in a hopeless state of confusion and perplexity. Let the speculative reader, who desires to see the contradiction which thus arises fully exposed, and in its bearing, too, on the subject of this chapter, consult Sir W. Hamilton's *Discussions*, Appendix, p. 591 *et seq.*

Sir William's mode of escape from the difficulty we cannot accept. The principle of causality he considers to be the mere issue of our intellectual impotency to conceive anything save as related in time. The principle of personality or liberty is with him equally the fruit of a similar impotency to conceive an infinite series of relations. Both, therefore, being mere impotencies of human thought, their mutual contradiction does not necessarily imply the falsehood of either.

The seeming contradiction vanishes with us in a different, and, as we think, more satisfactory way. Causality and personality have, in our view, one and the same root, which, from the first, is found in a sphere beyond logic. So far from being the mere issue of opposing negations, as Sir William Hamilton makes them, both principles take their rise in the most living reality of existence, the ego. That every effect must have a cause, means simply that everything implies as its source a living agent or mind; and this living agent or mind is simply a personality. We cannot conceive things save as the production of such a mind. Our reason demands such a mind. The inconceivability here is a complete rational inconceivability. There is no escape from it. And if it be also true that we cannot logically conceive, comprehend, or contain in thought such a mind, yet there is every difference between this and the inconceivability in the former case. This is merely negative, springing out of the necessary limitations of human thought. The former is not only negative, but issues out of a positive demand of reason on the other side. It would be more correct, in fact, to restrict the use of the term inconceivable to the former case: for although we cannot think, or construe to ourselves logically, an efficient cause or mind, such a cause is so far from being inconceivable to reason that reason expressly demands and affirms it. The reality of such a higher power of reason, which inseparably blends with faith, and is the organ of the unconditioned and insensible (see subsequent chapter), is implied in our whole course of reasoning. The truths revealed in this higher reason are not, properly speaking, inconceivable: they are only incomprehensible. The intellect cannot compass them; and this is of their very nature, because they are what they are—primary and not derivative.

§ III.—CHAPTER III.

CONSCIENCE—DIVINE RIGHTEOUSNESS.

As freedom is the fundamental condition of our moral being, so conscience is its guide and regulator. The soul, while self-acting, is at the same time spiritually controlled. It is then, indeed, most itself, most truly free, when most fully informed and controlled by conscience.

As in the case of every other element of man's spiritual being, the special character of conscience has been greatly disputed. Philosophy has found here even a favourite field of struggle. Among all our most earnest thinkers, however, there may be said to be at length something like unanimity in regarding conscience as a primitive and distinct fact or faculty. The attempts which have been made to resolve it into some simpler element of our mental constitution have merely served to prove the intimate alliance between conscience and our other mental powers, and their necessary influence upon its education and development. But in no case have they sufficed fully to explain its origin. The most skilful

analysis of the association of ideas, or of our common intellectual judgments, into both of which it has been sought to be explained, still leaves a residuary element unaccounted for, which, whatever name we give to it, is nothing else than the germ which expands into the full moral reality which we mean by conscience.

In its most general application it may be defined as that element of our being by which we become conscious of duty. It introduces man into a set of relations bearing to him the peculiar character of obligation, which, however little he may be able to analyse it, is felt by him in the strongest manner. Viewed as a mental power, its chief peculiarity accordingly consists in the position which it thus assumes amongst our other powers. It not only perceives, but commands; not only points the way, but orders to walk in it.

Since the profound and luminous expositions of Butler, in his *Sermons on Human Nature,* the attention of moralists has been prominently fixed on this authoritative aspect of conscience. Its special function has been recognised as that of a guide and governor. It is impossible, as Butler has pointed out, to dissociate from it the notion of direction and superintendency. "This is a constituent part of the idea—that is, of the faculty itself; and to preside and govern, from the very economy and constitution of man, belongs to it." "This faculty," he adds, "was placed within us to be our proper governor; to direct and regulate all under principles, passions, and motives of action. This is its right and office. Thus sacred is its authority. And how often soever men violate and rebelliously refuse to submit to it, for sup-

posed interest which they cannot otherwise obtain, or for the sake of passion which they cannot otherwise gratify, this makes no alteration as to the *natural right* and *office* of conscience." Even when its judgments are set aside, or trampled under foot, by the perverse force of the will, conscience, as Butler here truly indicates, does not, rightly speaking, lose its authority. It holds the transgressor in its grasp, and can bring him trembling before its judgment-seat, even when he would seem to have broken loose from all its restraints, and completely overborne its power. It asserts its sovereignty with a fearful reality, even although its sceptre has been broken, and its throne desecrated. Aloft itself, even among the ruins of its kingdom, it arraigns the stoutest rebel, and often holds in cowering bondage the most reckless criminal. "Had it strength, as it has right ; had it power, as it has manifest authority, it would," in Butler's expressive language, "absolutely govern the world."

It is especially this supreme and legislative aspect of conscience which gives it significance for the natural theologian. As a simple fact of creation it yields, undoubtedly, like every other fact, its appropriate testimony to the Creator; but here, in its authoritative import, is rightly recognised a peculiar and important element of theistic evidence. For the question immediately arises, whence this authority of conscience? Does not the very fact of a law within us directly testify to a Lawgiver without and above us? Does not the one fact, in its very nature, involve the other? The argument seems irresistible. The sense of government in

every heart can only proceed from a living governor, who placed it there. The moral power within us, therefore, gives, as its immediate inference, a Divine Power above us.

Every one will recognise in our statement a form of the theistic argument which, expounded by the zealous eloquence of Dr Chalmers, has passed into familiar currency in our natural theology. "The felt presence of a judge within the breast," he says, "powerfully and immediately suggests the notion of a Supreme Judge and Sovereign who placed it there. Upon this question the mind does not stop short at mere abstraction, but, passing at once from the abstract to the concrete, from the law of the heart it makes the rapid inference of a Lawgiver. The sense of a governing principle within, begets in all men the sentiment of a living Governor without and above them, and it does so with all the speed of an instantaneous feeling; yet it is not an impression—it is an inference notwithstanding, and as much so as any inference from that which is seen to that which is unseen. There is, in the first instance, cognisance taken of a fact, if not by the outward eye, yet, as good, by the eye of consciousness, which has been termed the faculty of internal observation. And the consequent belief of a God, instead of being an instinctive sense of the Divinity, is the fruit of an inference grounded on that fact. There is instant transition made, from the sense of a monitor within to the faith of a living Sovereign above; and this argument, described by all, but with such speed as almost to warrant the expression of its being felt by all, may be regarded, notwithstanding the force and fer-

tility of other considerations, as the great prop of natural religion among men." *

It is a question of little moment for the substantial conclusion involved—which is good in either case—whether the act by which it is reached be considered, with Dr Chalmers, really inductive, or rather intuitive. This obviously depends upon the further question as to what are regarded to be the special constituents of conscience. If we recognise it, with Butler, according to the view already set forth, to be itself a delegated power, and not merely the perception or revelation of a power, we obviously leave room for an inductive step or inference. We have in this view, as the immediate fact of consciousness, a sense of authority which, as we cannot conceive it to be self-constituted, we necessarily refer to a supreme or divine Source. But if, according to the more simple view, and what would seem to be the direct import of the name conscience, we consider it as not in any way containing in itself the power with which it rules us, but as directly revealing to us that power in another, then we leave no room for induction. We have, in the very fact of conscience, the intuition of the Divine will, just as we have in the fact of self-existence the intuition of the Divine existence. As we cannot realise our own being without at the same time realising another and a higher Being, so we cannot become conscious of duty, without at the same time realising another and a higher Will. The moral law is to us nothing more than the revelation of this higher or divine

* *Natural Theology*, vol. i. p. 331-332.

Will in the soul. We do not, therefore, need to rise from it to God, for it is already the voice of God within us. We are carried out of ourselves, so to speak, in the simple reality of conscience. The authority which, in conscience, speaks to us is not merely something from which we may infer a divine Power, but is already the direct expression of that power.

This, upon reflection, we feel convinced, is the more just and penetrating view of the subject. Preserving all the truth of Butler's view, in even a higher form than he presented it, it gives, in a psychological respect, a more discriminating and consistent interpretation of conscience, than when it is regarded as in itself both a perceptive and imperative faculty. Viewed simply as the organ of a higher power, its psychological dignity is at once vindicated, and its possible abuse readily understood. For let the organ be untrained or neglected, and its intuition will be dim and obscure, or even absolutely perverted. But let it be appropriately disciplined, and its intuition will rise into clearness and truth. We do not see, in any case, how conscience can ever be adequately explained, without bringing into prominence the theological meaning which it so essentially expresses. Apart from God it would be an inexplicable riddle: held as revealing God, it becomes beautifully intelligible. It is the light within whereby we perceive at once the Hand that guides us, and, although more dimly, the destination that awaits us.

We have not yet, however, exhausted the theistic significance of conscience. It is not merely to the fact of a divine

Power that it testifies, but eminently to the character of that power. The moral law, which it reveals, is not simply the expression of a supreme Will, but of a Will which is essentially good and righteous. It is this, in truth, which gives all its force to conscience. It is by the good alone that it governs. It is the law of goodness which asserts itself in the human heart, under whatever violation, and holds itself a sovereign, even when its kingdom has been invaded and laid waste. To this idea of a Good above man, claiming his obedience, we alone owe the very conception of duty. It is this which gives all its peculiar sacredness and beauty to human life. Apart from it man would merely be as the brutes around him, with no nobleness of piety in his heart, and no long-suffering love mingling its purifying fires in his lot. In conscience, therefore, we must recognise a peculiar testimony to the divine goodness. As the organ of duty, it is in fact specifically the revelation of the Supreme Good. It brings man not only into converse with Goodness, but relates him to it, as the power which binds him in his daily life, and would guide him to daily happiness.

But the divine Goodness, to which conscience testifies, is at the same time divine Righteousness. This is a further very significant and wholly peculiar element of theistic evidence disclosed in conscience. The Supreme Good interprets itself here as the Supreme Right. This idea of Right is one which, hitherto, we could not possibly have encountered; for it only finds an application in the region of free moral life, where it emerges correlatively with duty. It is the idea in which alone duty finds its complement, and so becomes the sacred

bond which holds our moral being in harmony. The element or attribute of righteousness is one, therefore, which a comprehensive natural theology must ever recognise in the Divine Being. The broad and earnest mind of Dr Chalmers did, perhaps, especial service in making this clear and prominent. And it has since become more and more a matter of conviction that Theism is not only bound to take up this element, but that it furnishes, to some extent, the key to the profound mysteries which lie around the special attribute of divine goodness. For in order to perceive a benevolent meaning in much that would otherwise seem opposed to benevolence, we have only to see that goodness completes itself in righteousness, and can never validly come short of it. The conception of goodness becomes thus not only exalted, but discriminated. Whereas, in the lower regions of sentient and intellectual life, the former attribute is apparent merely as a disposition to bestow happiness—here, in the light of the further conception into which it rises, it appears before us as something which may, in the highest sense, assert itself, not certainly irrespective of happiness, yet apart from its immediate bestowal—yea, even in the bestowal of partial and temporary unhappiness. For, as the good is at the same time ever the right, as love only sustains itself in holiness, so it becomes conceivable that, where the right has been invaded, and the holy desecrated, goodness may express itself most distinctively in suffering or punishment. This bearing of the subject we now merely indicate, as it will afterwards come before us for special consideration.

In the mean time we fix attention upon the fact of Righte-

ousness, as it has come before us at this upward point in the course of our theistic evidence. It is among the last facts which meet us in the evolution of the idea of God, which is the appropriate task of Natural Theology ; but in another sense it is undoubtedly among the reasoned primary springs of Theism. For there is no deeper or more universal source of the divine consciousness in every heart. It is, above all, as a righteous power that God is spontaneously known in the common mind. It is the ineradicable testimony of conscience which, above all, preserves the sense of Divinity in the world, amid the corruptions of passion or the delusions of intellectual self-conceit. It asserts a divine Presence with a cogency which no sophistry can parry, and no argument gainsay. And while man retains within him this impressive monitor, the belief in God can never cease, even although the manifold adaptations of matter and of mind should fail to arrest his wonder, and engage his study.

§ III.—CHAPTER IV.

REASON—INFINITY.

(A PRIORI ARGUMENT.)

MIND begins in faith, in holding for true the objective, presented to it in sensible perception. Thus intuitive in its lowest energy, it is equally so in its highest. If, looking outward, it has no further explanation to render of the reality of the visible world than that it is present in apprehension, and therefore must be conceived as existent; so, looking upward from the sphere of finite reality, it perceives a higher world of truth, which equally makes itself good in apprehension.

Such a higher power of intuition, by which we apprehend realities beyond the region of the sensible, is one which is admitted by every school of philosophy, save that which, from the extremely unphilosophical assumption lying at its basis, is bound to ignore everything beyond the sensible.* At the same time, there have been endless disputes as to the special name and character of this transcendant

* Even empiricism may be said to give us, under the form of generalisations, a mimicry of the truths which it yet denies.

intuition. For our purpose it matters not at all how it may be specially designated, or even understood, so that its reality is confessed; whether, for example, it be identified more with the intellectual or moral side of our being. According to the only genuine conception of the human mind, this is indeed a very irrelevant question, as there are none of the sides of mental activity which can be strictly demarcated from the others, all blending as they do endlessly into one another. Whether, therefore, this loftiest energy of the soul—which relates it to a sphere of unconditioned objectivity, as the lower intuitional power relates it to the sphere of the conditioned—be conceived of as intelligence in the highest sense (the Νοῦς), or as faith, it is for us of no consequence. As forming the highest expression of our mental activity, it seems eminently to deserve the special name of reason, which has often been applied to it.*

The infinite is the peculiar object of this higher intuition.

* This employment of the term reason, to denote the special faculty of the supersensible or unconditioned, is very old, although it may be true, according to Sir W. Hamilton (*Ed. Reid,* note A, p. 769), that it has only been generally used in this sense since the time of Kant. Its justification seems to be simply this, that the highest energy or expression of the human mind may very well receive pre-eminently the name which is characteristic of its general nature. Certainly, if the name is to be appropriated to any special power or faculty, it ought to be appropriated to this highest and most aspiring faculty, which brings us into communion with the spiritual and the infinite. If such an interpretation of reason were kept steadily in view, the supposed conflicts between it and faith, which have been so long the bane and opprobrium of Theology, would speedily disappear. For thus they would be clearly seen to form a unity of power, in which the whole soul, intellectually and practically, goes forth towards the truth. In our older and best theology this is the view under which reason is presented.—*Vide* HOOKER'S *Eccles. Polit.*, book i. chap. vii. *et seq.*

It is the revelation of reason as the finite is the revelation of sense. There is no reality, apprehended under a diversity of forms, which holds a more living possession of the human mind. The various notions of substance, space, duration, which constitute the necessary truths logically presupposed in all phenomena of sense and reflection, and which reappear in all metaphysic as its essential data, are merely different modes under which the infinite makes itself known. The very variety of these, its expressions, and the obstinacy with which, under whatever denial, they cling to the mind, only serve to display the richness of the generic truth in which they all inhere, and of which they are merely manifestations.

The mode in which we have approached this subject seems to dissipate many of the controversies which have incumbered it. It serves to show the reality of the infinite as an element or constituent of human knowledge, without in any degree aiming to bring the infinite as an idea within our reach. So far as we try to seize or compass it in thought—or, in other words, hold it before us as an idea—it can, in the nature of the case, only present itself as a negation. It evades us in the very attempt to contain or comprehend it. But while the infinite is thus incomprehensible as a subject of thought, it is directly apprehensible as a reality of reason. Negative as an idea, it is positive as a fact. While we cannot think it, yet we cannot want it. It reveals itself as an implicate of all our more special mental conceptions, and it may therefore be said to guarantee itself in the very hold which it thus keeps of the soul, under

all the baffling attempts of the understanding to compass it. And this is admitted by Sir W. Hamilton, in language than which we could desire nothing more plain as a confession of all that we really contend for. "We are thus taught," he says, "the salutary lesson that the capacity of thought is not to be constituted into the measure of existence, and are warned from recognising the domain of our knowledge as necessarily coextensive with the horizon of our faith. And by a wonderful revelation we are thus, in the very consciousness of our inability to conceive aught above the relative and finite, inspired with a belief in the existence of something unconditioned beyond the sphere of all comprehensible reality." *

In the same point of view we see the fallacy of the Kantian doctrine of the infinite. Admitting it as a regulating idea of human knowledge, Kant yet denied to it any objective validity. The idea, according to him, might be necessary to us, and yet not represent a reality. And so it might, were the ideal or notional the mode in which the infinite is alone present to us. But this is so far from being the case, that the *idea*, as present in the understanding, is only the dim reflection of the *fact* present in reason. The infinite comes to us intuitively, and not notionally; and in this the very mode of its apprehension affirms its reality. The soul looks upward, and the light of the infinite dawns upon it. It presents itself as an objective presence —a self-revealing vision—and is not wrought out as a mere ideal projection from our mental restlessness. It is felt to

* *Philosophical Discussions*, p. 15.

be a reality containing and conditioning the soul, which, with all its power, it cannot think away; and this it could not be, were it a mere self-created form of the soul. The declaration of consciousness here, no less than in sensible perception, gives, as its indisputable contents, subject and object, in immediate and inseparable relation. In the one case as in the other, the mind "gazes upon its object with an immediacy which suffers no error or doubt to intervene, and gives in this way a guarantee for its legitimacy which it is impossible to resist." It is now, in fact, admitted on all hands, that Kant's denial of objectivity to the ideas of pure reason, and his virtual readmission of their reality as postulates of the practical reason, is the most inconsequent and feeble portion of his whole philosophy—and on the special ground, already so often stated by us, that we cannot legitimately disjoin the intellectual and the moral — the pure and the practical—and hold their deliverances asunder. Certainly we cannot leave out of that highest spiritual faculty we call reason, the element of faith, without destroying its essential character, and making it merely a higher form of the logical understanding. It is of the very essence of reason — regarded by us as the apex of the soul's activity—its consummate energy,—to be at once pure and practical, cognitive and moral. We have, in the last case, no higher name for knowledge everywhere than belief. And this belief, as Sir W. Hamilton says, is mistaken by Kant when recognised as "a mere spiritual craving." It is rather "an immediate manifestation to intelligence—not as a postulate, but as a datum—not as an

interest in certain truths, but as the fact, the principle, the warrant of their cognition and reality." *

No one has dwelt more fully upon the function of reason, and its use and value in natural theology, than M. Cousin. But while others have erred in undervaluing it, he has erred in unduly magnifying it, or rather in losing sight of the human in the Divine reality. It is not with him, in any distinctive sense, a human power through which we merely apprehend God as the one ultimate and absolute Substance and Cause; but it is, even in its human appearance, a sort of divinity—"not, indeed, the absolute God, but His manifestation in spirit and in truth—not the Being of beings, but the God of the human race." †

The characteristic error of Cousin seems to consist in a too extreme recoil from the subjectivity of Kant. Looking at the great constitutive idea of the infinite, in the various phases in which it is found to underlie all our mental operations—as, for example, the universal in space, the eternal in time—Kant concluded that these were the mere forms or categories which the mind, the ego cogitative, imposes upon itself. He thus denuded them of objectivity, and thereby, as we have seen, contradicted the testimony of consciousness in reason, which embraces not only a subject, but an object—which declares the soul not only to be conversant with such notions, as regulative forms of its own activity, but to be directly and primarily conversant with the reality

* *Ed. Reid,* Note A, p. 793.

† *Fragmens Philosophiques,* preface de la première edit., p. 36-37. Paris: 1849.

in which they all inhere. Looking at these same notions, Cousin, on the other hand, is not content to accept them as intuitively made known to the human reason, but he insists upon them as realities apart from the human ego, and, indeed, any ego whatever. They were only the forms of the human ego with Kant: the ego has nothing to do with them, says Cousin; for reason, which expresses or contains them, is impersonal.* But this is to talk in a language which is to us wholly unintelligible; for we can have no conception of reason which is unrelated to personality. Apart from the latter element it is a mere abstraction, equally unmeaning with the materialistic abstraction of law, and equally calculated to play the same pantheistic or atheistic part of exalting itself in the place of God. The contents of reason are, no doubt, realities altogether apart from the human ego; but how they can be known or manifested to us, save as apprehended by that ego, seems a puzzle of peculiar hopelessness. The fact appears to be, that personality, or the ego, is understood by M. Cousin as something subordinate and inferior, with the action of which it is degrading to associate reason; and here again he is found somewhat strangely meeting the views of the materialistic school most opposed to him.

Our position is equally opposed to both these extremes. The infinite is apprehended by us as a reality in the strongest manner, but then the evidence of this reality is directly found in the intuitive apprehension of the ego. It is re-

* *Fragmens Philosophiques*, preface de la première edit., vol. iv. p. 21. See also preface de la deuxième edit., p. 56.

vealed in the rational consciousness, and in its revelation sufficiently attests its existence. Our reason relates us to the infinite, and lifts us into communion with it. It is thus to us the ever-sufficient evidence of the Divine reality; but it is itself only a feeble and broken shadow of that reality. It looks forth into the invisible, and finds there its living Author; yet it is deeply conscious of its own weakness, while conscious of its affinity with the Divine Presence which there meets it, and from which it comes.

This infinite Presence in space and in time is the complement of man's spiritual being at all points. It asserts its power in the human mind in manifold ways, that can only be accounted for by its truth. Apart from its shadow in the intellect, science could not exist: knowledge would be a mere perplexed and confused accumulation. This, however, brings a unity into all our mental operations. Reason descries an infinite meaning everywhere, and science is the creation of such a gift. Apart from this reality in the heart life would be vanity. The higher glory of eternity could not encompass and strengthen it. It is only the truth of the Infinite that gives significance to speculation or perseverance to well-doing.

In natural theology this predicate of the Infinite is at once the most consummate and comprehensive that rewards our inquiry, without which every induction must come short of the proof of a Divine Existence. It gives, as its essential contents, not only all those special attributes of eternity, omnipotence, omniscience, of which it is simply the generic

expression ; but, moreover, the unity of these attributes, in which the idea of God alone completes itself. For unity is plainly a logical condition of infinity; and, manifold as are the indications of unity in nature, it may be doubted whether these could give us more than a unity of Divine purpose, whereas our conclusion requires a unity of Divine Essence. It attains to its full meaning only in the admission of one " all-powerful, wise, and good Being, by whom everything exists."

The special question of the validity of the *a priori* argument for the being of a God here comes before us directly ; and although our relation to it can scarcely fail to have made itself intelligible to the philosophical reader, it may yet deserve from us a special consideration.

The pretension of the *a priori* argument is the logical evolution or demonstration of the truth of the Divine existence from some element or datum admitted to be indisputable. In order strictly to maintain its character, this element ought to be one ineradicably given in our modes of thought—an intellectual point of which we cannot get rid, but which we continue to think in the very attempt to think away. Such is our notion of infinity ; and all *a priori* reasoning for the being of a God will be found to rest on some phase or other of this notion. It errs not in its appeal to such fundamental necessities of human thought, but in its attempt to construct out of them a logical demonstration of the Divine Existence. We will confine ourselves, for the sake of illustration, to

what is commonly known as the Cartesian * argument. The argument of Dr Clarke, in so far as it is *a priori*, lies open to the same criticism. This argument, however, as already observed in the Introduction, is not strictly *a priori*, setting out as it does from an express fact of observation or of sensible experience. The remarkable argument of Mr Gillespie,† which, as a specimen of *a priori* speculation, certainly claims to be ranked along with anything in British philosophical literature, comes still more directly within the scope of our objection.

We select our statement of the Cartesian argument from the replies to the *Objections to the Meditations*,‡ where it is found in a form the most rigidly demonstrative, and which may very well stand as the type of all possible *a priori* argumentation on the subject. The following is the proposition to be proved, and the mode of demonstration:—

* The name of Des Cartes has been especially associated with the *a priori* argument, and to him must undoubtedly be allowed the merit of having launched it, as a pregnant problem, into the current of modern speculation. The argument, however, in all that it essentially imports, is as old as the first dawn of scholasticism, of which it is so genuine a product. The germ of it is to be found in the writings of the great father of the Scholastic Philosophy (Augustine, 2d chap. *De Lib. Arbit.*) and in the writings of Anselm and Aquinas. In those of the former it is even set forth in a strictly formal and scientific manner, which the student may consult as presented in Hagenbach's *History of Doctrines*, vol. i. p. 443 *et seq.*

It is a somewhat curious fact to find Des Cartes, who so emphatically stands at the head of our modern free inquiry, the patriarch of that speculative spirit which has born such strange fruits of intellectual daring, and who himself manifests in his *Meditations* a tone of such intense originality, reverting to a familiar doctrine of the expiring scholasticism as one of the most fundamental principles of the new philosophical certitude which he aimed to establish.

† *The Necessary Existence of Deity.* By WILLIAM GILLESPIE. Edin. 1836.

‡ *Objections aux Meditations*, p. 460-461; *Œuvres de Des Cartes.* Par COUSIN. Vol. i. Paris: 1824.

Proposition.—" The existence of God is known from the consideration of His nature alone."

Demonstration.—" To say that an attribute is contained in the nature, or in the concept of a thing, is the same as to say that this attribute is true of this thing, and that it may be affirmed to be in it."

" But necessary existence is contained in the nature, or in the concept of God."

" Hence it may with truth be said that necessary existence is in God, or that God exists."

This argument, be it observed, sets out from the conception of God, and infers, simply on the ground of this conception, the fact of His existence. More particularly, it infers this fact, because necessary existence is an essential element of the conception of God; that is to say, our conception of God, as the all-perfect or the infinite, includes this special phase of the infinite, necessary existence ;—and therefore God exists. The character of the conception is made the proof of the fact. This seems to us a fair explication of the argument. We do not now dwell upon the paralogism which it may be said to involve in starting from the conception of God, which is yet the very thing to be found. We would only fix attention upon the inference by which it passes from the concept to the reality—from the *idea* to the *fact.* Instead of uniting the soul to objectivity by the very character of its affirmation in reason, the Cartesian sets out with the subjective and reasons to the objective. The infinite real is with him a logical inference from the infinite ideal (apprehended separately)—the con-

crete from the abstract. A purely intellectual necessity is regarded as demonstrative of an actual existence. According to our representation, on the other hand, the infinite is not apprehended as in the mind at all apart from reality, but as a revelation of reality from the first—as, in short, not logically but intuitively given. The postulate of reason is a reality, and the logical necessity of the Cartesian is the mere reflection in the understanding of this encompassing reality, which stands face to face with us in reason. In the one case, the infinite is apprehended as a fact in the truthful mirror of intuition; in the other case, the mind is merely busy with a set of abstract ideas, which are nothing else than the shadow (reflection) in thought or logical form of the intuitive fact.

If, with the Cartesian, we take our stand among these abstract ideas, we believe that we can never, by any process of proof, reach the conclusion at which he aims. The infinite ideal can never logically yield the infinite real. Kant's famous criticism of the Cartesian argument has, we think, established so much beyond all dispute. He has shown, with an acuteness and power of reasoning which it is impossible to resist, that this argument, in passing from the abstract to the concrete, confounds a logical with a real predicate,—or, in other words, stealthily translates a mere relation of thought into a fact of existence, which it does not and cannot contain. The following illustration, used by Des Cartes, will make this clear. The quotation is from his statement in the *Principles* of the same argument which we have already given in the more precise form in which it is found in his

answers to *Objections:* "Just as because, for example, the equality of its three angles to two right angles is necessarily comprised in the idea of a triangle, the mind is firmly persuaded that the three angles of a triangle are equal to two right angles; so, from its perceiving necessary and eternal existence to be comprised in the idea which it has of an all-perfect Being, it ought manifestly to conclude that this all-perfect Being exists."

It is impossible not to see at once that there is a plain fallacy here. The idea of a triangle includes the equality of its three angles to two right angles; therefore the three angles of a triangle are equal to two right angles. This is simply to affirm an identical proposition—that proposition being the invariability of the intellectual conception expressed by a triangle. The idea of an all-perfect Being includes necessary existence; therefore this all-perfect Being exists. This, on the contrary, is not simply to affirm, as in the former case, an identical proposition, which would have been only to this effect, that necessary existence is an essential constituent of the idea of an all-perfect Being, but, tacitly and illegitimately, to pass from the relation of an intellectual conception to the reality of the thing conceived; whereas the only reality that can be given, as in the parallel case of the triangle, is the reality of the relations of the intellectual conception.

Kant pursues his argument in the following manner, which may perhaps serve to set it more thoroughly before the reader: "If I do away with the predicate in an identical judgment, and I retain the subject—that is to say, do

away with the equality of the three angles to two right angles, and yet retain the triangle, or do away with necessary existence, and yet retain the idea of an all-perfect Being—a contradiction arises. But if I annul the subject together with the predicate, then there arises no contradiction, for there is no more anything which could be contradicted. To assume a triangle, and yet to do away with the three angles of the same, is contradictory; but to do away with the triangle together with its three angles is no contradiction. It is just the same with the conception of an absolutely necessary being. If you do away with the existence of this, you thus do away with the thing itself, together with all its predicates (in which case there can be no contradiction). . . . God is omnipotent; this is a necessary judgment. The omnipotence cannot be done away with if you suppose a Divinity—that is, an infinite Being, with the conception of which the fact is identical. But if you say, God is not, neither the omnipotency, nor any other of His predicates, is then given; because they are all annihilated together with the subject, and in this thought there is not manifested the least contradiction." *

The Kantian criticism must, we think, be fairly allowed to be destructive of the Cartesian demonstration. However a mere abstract idea may indicate a corresponding reality

* *Kritik der reinen Vernunft*, p. 458; Kant's Werke. Leipzig: 1838.—The matter is perhaps best of all cleared up by Kant's well-known distinction of analytic and synthetic judgments. The equality of three angles of a triangle to two right angles is what he called an analytic judgment; that is to say, a simple writing out of the conception already given in a triangle. The predicate *B* is already in the subject *A*. Again, existence, as a necessary element of the conception, God, is in a similar manner an analytic judgment—a simple

(must in fact do so), it can never, if we merely hold thereby, constitute a valid proof of it. We can never logically pass from the one to the other. Just as in perception, if we endeavour to separate the contents therein given, and hold merely with the ideal factor—the me—we can never argumentatively find the not-me. We can never get out of the subjective circle. But let us only acknowledge the intuitive character of the apprehensive act in either case—in reason as in sense—and we have already as indisputable matter of fact the me and the not-me, the subject and object. The infinite, no longer regarded as a mere subjective reflection in the understanding—a mere logical necessity—but as intuitively given in reason, needs and admits of no further proof of reality than its being thus given. It is there—a living Presence, in which alone the finite soul at once apprehends itself and the ultimate and absolute Being whence it is. So far from depending on demonstration, it is, in this view, a fact anterior to all demonstration, and even the very condition of that logical thought, which in vain seeks to reach it.

And in thus abandoning all claim to demonstration, the evidence for the being of a God, so far from being weakened, is indeed strengthened. For in all our knowledge there is, and can be, no higher warrant for reality than the grasp of intuition. What the soul thus holds by immediate presen-

writing out of the conception for which God already stands. The predicate *B* (existence as a conception) is already in the subject *A*. But to predicate existence as a fact of the subject *A*, is to pass out of the sphere of the conception altogether, and, however true in itself, can never be given in the mere conception. The judgment, in this case, is no longer analytic, but synthetic; that is to say, something is affirmed, which the mere explication of the conception does not yield.

tation, is, and must be, its most living possession—the source of all its own elaborated notions, and in comparison with which these are verily as shadows. And thus, too, it deserves to be added, the great truth of the existence of God is only preserved as a truth of religion, encompassed with a radiance of evidence which only the wilfully blind can fail to see, yet not mathematically demonstrated, that they who devoutly seek the light may have gladness and reward in its discovery.

SECTION IV.

DIFFICULTIES REGARDING THE DIVINE WISDOM AND GOODNESS.

§ IV.—CHAPTER I.

STATEMENT OF DIFFICULTIES, ETC.

We have already noticed certain "difficulties" that directly meet us in unfolding the theistic argument. In carrying up our varied trains of induction from the wide province of nature, we encounter facts, which not only, on the first view, do not contribute to our argument, but seem to stand in obvious contradiction to it.

These facts do not meet us in the outset, but only as we advance. So long as we confine our range of induction to material phenomena, to the combinations of inorganic matter, or even of the lower forms of organic existence, there is nothing that can be said to interrupt the harmonious flow of the theistic evidence. All is order, unbroken by check or flaw. There is no room for the conception of imperfection or evil.

We trace certainly, within the domain of matter, the signs of what we are apt to call disorder. The planetary system, in some of its features, seems to present indications of disturbance. The frame of the earth has apparently, in past

times, been rent and broken up by mighty throes. And there are instances even now of such material convulsions; as when the lightning desolates, or the volcano pours its fiery doom over surrounding towns and villages, or the earthquake engulfs them with sudden terror. But it is only to *us*, or because we contemplate these things in the light of life, that such phenomena assume for a moment the appearance of disorder. In themselves—apprehended simply in regard either to their causes or their material results—such a term has no application to them; for they are merely appropriate issues in the great plan of physical development, whereby the constant growth of its order and beauty is maintained.

When, however, we pass beyond material arrangements to those of life in its higher forms, we find phenomena which in themselves appear dark and contradictory. Pain emerges as a parallel fact with pleasure in sensation; death as a parallel fact with life throughout all its range. The facts of pain and death are peculiar in this respect, that they appear to contradict and nullify the very order amid which they occur: they are evil amid the good. It is this conception of evil which, in the mere domain of matter, has obviously no place—which constitutes, in its manifold forms, the grand difficulty of the Natural Theologian.

In the sphere of animal life, evil is present in such apparent contradictions as we have now mentioned, and especially in the direct provision made for the event of these in the existence of animals of prey. The joy and life of certain animals are the agony and death of others. This arrangement of nature seems to present itself as a mal-arrangement.

In the sphere of human life, evil is especially present—not only in the lower physical forms of pain and death, but, moreover, in all the forms of sorrow which disturb and vex the human heart, the multiplied social evils of our race, and, above all, in the fact of sin, which at once intensifies, and in a manner comprehends, every other phase of human evil.

These phenomena, therefore, claim our special examination, in reference to the theistic argument. They seem to bear with a show of opposing force against it, at least against its full conclusiveness. Their reality appears to affect particularly the truth of the Divine wisdom and goodness. With these attributes, and eminently with the latter, the fact of evil comes in conflict. It is, we formerly saw, in immediate opposition to the good in sensation that the evil first emerges; but evil, being also in its very conception disorder, is no less truly opposed to wisdom than to goodness.

It now remains for us, therefore, to obviate the difficulties thence arising to our argument. The attributes of Divine wisdom and goodness, while suffering under the partial shadow of such points of darkness, may yet be found, from a thorough review of the whole subject and field of evidence before us, to come forth into even a purer and more glorious lustre than if there had been no shadow to dissipate—no evil to alleviate.

§ IV.—CHAPTER II.

GENERAL CONSIDERATIONS.

BEFORE entering on the special examination of the difficulties before us, it may help to clear our way, and throw some light around it, to draw attention to certain general considerations bearing on the subject.

The first of these arises from the fact, already more than once insisted upon, that phenomena of evil are truly of an exceptional character: they come before us as exceptions to general order and prevailing good. While, therefore, they appear formidable difficulties when viewed by themselves, it is not yet by themselves, but as mere spots of darkness in an otherwise fair and bright picture, that they can fairly claim to be regarded. Let them be considered, in the fullest sense, obstacles in the way of the complete theistic inference—anomalies demanding explanation; they have yet no claim to set aside that inference, in virtue of their mere existence. An indefinite array of facts bears witness to the Divine wisdom and goodness with an accumulating force of evidence which is irresistible. This evidence is entitled to hold good its

place for what it is worth, notwithstanding that there is a certain amount of what appears counter-evidence. Let both go into court, and be judged according to their respective value; but it were surely a strange injustice that the mere presence of certain phenomena appearing to form negative evidence should be held, *per se*, to dispose of the whole array of positive evidence. It were a strange injustice to deny that any valid inference of corresponding qualities in an artist can be founded on the general excellence, the harmonious skill, displayed by his work, because it may contain what may seem to us imperfections. And yet this is really the injustice which has been perpetrated, as with a show of superior acuteness,* against the inductive argument for the Divine wisdom

* "If the celebrated argument of design is to hold good as evidence in favour, it must hold equally good as evidence against the wisdom and beneficence of the Creator;—a startling proposition, and one, we believe, never made before, but one from which logic has no escape. When you point to the perfection of organisations as evidence of wisdom, and to their manifold enjoyments as evidence of goodness, you force the reflective mind to think of the imperfections and the misery so abundantly displayed. When you take your relative good for the absolute good, you must equally accept your relative evil for the absolute evil. Now this is shocking; the mind refuses to accept such a conception, and would be plunged in despair, did it not learn that Wisdom, Goodness, Evil, are but relative terms, and pertain to our human finite conditions, not to the Infinite. Yet, if men will persist in measuring the Infinite according to their finite standard, they must do so in the one case as in the other. Theologians usually escape from the dilemma by saying, when any case of manifest evil is propounded, 'God's ways are inscrutable;' and they are right. But if inscrutable in one direction, inscrutable in all. We do not understand evil, nor do we understand good; the finite cannot understand the Infinite."—*Leader*, No. 116, July 12, 1852.

We present this as a specimen of our most recent antitheistic logic. The passage, as it proceeds, is not without an air of speciousness, which is yet, as it appears to us, only derived from a perversion of the assumption against which it is directed. It is not true, for example, that the Theologian takes the relative good which he finds in nature as equivalent to absolute good. So far is this from being the case, that the whole question

and beneficence. It has been urged, for example, that the apparent imperfections of nature as much warrant a negative, as its order a positive, conclusion in reference to the Divine wisdom. This is imagined to be a peculiar hit of logic, which completely demolishes the theistic induction! Yet surely it is impossible to conceive a graver perversion of logic. For even admitting the fact of such imperfections in nature as are supposed, which may be entirely disputed, all that logic can demand is, that such phenomena shall not be rejected, and held as of no account in the theistic evidence. In fairness, they must receive a hearing before the conclusion is pronounced. The presumptions of an opposite character which they involve must be weighed; but that certain apparent anomalies here and there, which, the more they are

as to the theistic significance of evil only occurs from the admission that the good in nature is relative. Were it absolute, or assumed to be absolute, there would and could be no such question. The fact is, that the argument of design, according to its only right interpretation, and as abundantly evident from the whole course of our previous evidence, does not deal with the absolute in any sense at all. Its sole aim is to verify the theistic idea, as revealed in nature. It does not, therefore, affect to reach, far less to understand, the Infinite. It does profess, however, to determine comprehensively according to their full character the theistic contents given in nature; and its conclusion certainly is that wisdom and goodness are among their number. Looking with an open glance upon creation, the Theologian has the evidence of wisdom and goodness forced upon him, and by the laws of his rational constitution he cannot fail to carry up these attributes of creation to the Creator. But if you do this, says the sceptic, you are equally bound to carry up to the same source the opposite attributes of "imperfection and misery so abundantly displayed" in creation. Yes, bound to carry them up in the shape of negative presumptions—but this is all. And this is really what the Theologian does, and these negative presumptions are just the difficulties with which he has to deal. The force of these difficulties may be such as to leave the conclusion of absolute goodness uncertain on the mere sphere of nature, this conclusion being only perfected in the rational intuition of the Infinite; but it cannot surely be maintained to be such as to leave the fact of goodness in the Deity, even on this sphere, in any degree uncertain.

examined, the less they are seen to be anomalies, must be allowed to set aside the otherwise uniform testimony of nature, is too absurdly illogical a pretension to deserve even the notice we have given it.

Even so as to those more serious aspects of misery which exist in human life. The very utmost that can be demanded is, that they be recognised as difficulties in the way of the complete theistic inference. It is certainly puzzling that the works of a good Being should be in any respect marred by unhappiness. Yet the partial unhappiness cannot for a moment be entitled to set aside the prevailing happiness. On any fair principle of evidence, we must admit the good for what it truly is—the rule of nature; and the evil for what it no less truly is—only the exception. In this, as it appears to us, the whole question at this stage is summed up, and we willingly leave the sceptic on either horn of the dilemma he may choose; namely, either to deny that happiness is the rule of creation (a denial from which his philosophic *insouciance* would especially shrink), or to admit *pro tanto* the validity of the inference founded upon the rule, and to join us in the search of whatever explanation the exceptions may admit of.

And this leads us to the only other preliminary consideration which seems to demand attention. In reviewing the phenomena of creation, we are to bear in mind that we only see part of a great plan in progress. We cannot, in the nature of the case, see more. But if we could see the whole plan in its extended development, many things that now seem to us exceptional and contradictory might lose this

character altogether, and even expand into special means of advance in the ever-enlarging display of the Divine beneficence. The mystery which everywhere encompasses our finite sphere of observation, may only conceal from us the wisdom and the goodness that are really present in many phenomena where we cannot even trace them. The limitation of our faculties is thus recognised as in some manner explanatory of the difficulties that meet us in regard to our subject; and it is quite validly so held in a general sense. It has been urged, indeed, in the same hostile spirit of reasoning, already noticed, that if the limitation of our faculties is to be called into account so far, it must be admitted much farther. It ought truly to deter us from pronouncing any theistic judgment at all as to creation—an assertion which is really tantamount to saying that we ought to reject a fact because we are not able to perceive all the relations of that fact. We are not to admit that God is good, because we cannot understand the whole nature and bearing of His goodness. We are to refuse to believe what we see and know, because there are certain things we do not see and cannot know. The finite cannot understand the infinite; therefore it must pause in mere dumb perplexity, and not say anything, nor believe anything. Reason instinctively recoils from such an assertion. It at once rejects such a mere syllogistic cavil. With a higher and truer logic, it accepts the good, although it may not comprehend all its modes of operation. Looking out from the veil which covers its limited vision, it perceives and acknowledges the lustre of beneficence all around it, and it only pauses where shadows seem to cover

that lustre. We do not deny the light of the sun because shadows here and there intercept that light: nay, there are spots, we know, in the very solar brightness itself; but this does not prevent us day by day, as we pass into its presence, confessing the lustre of beauty and happiness that it sheds about our path.

We rightly allow, therefore, the theistic inference on its positive side, while we pause before those negative facts that force themselves upon us. We validly pause in the one case, and not in the other, on the broad ground that, in the one case, the immediate conclusion is correspondent to our rational instincts, and in the other it is repellent to those instincts. Truly speaking, it is only in the latter case that the region of ignorance and mystery begins. It is only the evil that is utterly unintelligible. It is only in reference to the evil that the limitation of our faculties is displayed in absolute helplessness. Rightly, therefore, on every principle of reason, we call in this limitation of our faculties as demanding a suspense of judgment in regard to the evil, and not in regard to the good. In the one case reason is satisfied: it rests in the good, as sympathetic with it, and intelligible to it. From the evil, on the contrary, it retreats, as utterly perplexing; and we say, in such a case, with a justice which commends itself to every heart, that if we knew more—if our faculties were more competent—we might understand what is now so dark. If our vision were enlarged, we might perceive that what seems so anomalous and evil is not really so. For we are but the creatures of a day; and those darkened characters which our feeble sight

cannot read, may yet, to a higher sight, be luminous with Divine light. The mystery which we cannot explain, may disappear on a wider horizon of knowledge. Could we see the end from the beginning, it may be best as it is, after all. The complications which now yield us no meaning, or one at which we only gaze with awe, may expand into issues of beneficence that will gladden the angels, when the great scheme is complete, and the glory of final victory is poured backwards through all its darkened perplexities and most deeply-lying shadows.

§ IV.—CHAPTER III.

SPECIAL EXAMINATION OF DIFFICULTIES—PHYSICAL PAIN AND DEATH.

We have already seen what are the first difficulties which meet us in the course of our theistic induction. In the region of sentient existence, which brings us into the presence of Divine Goodness, we meet, in immediate connection with the phenomena of pleasure, the phenomena of pain; and death we find ceaselessly alternating with life. In examining these difficulties, we shall regard them in their widest manifestation throughout the sphere of animal being. Any special reference that they may have to man will be sufficiently considered under those higher forms of evil that peculiarly belong to him.

The first thing to be said of physical pain is what we have already urged.* The issue of the sensitive frame, according to its regular and harmonious action, is pleasure. In health and vigour—or, in other words, when not interfered with—it gives forth pleasure. There is no part of the system whose

* See p. 191-193.

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direct appointed action is pain. Pain, in short, is not the production of the sentient organism in the same sense as pleasure is. It is something which attacks the organism, or is superinduced upon it; not something which springs directly and necessarily out of it. It is the exception—pleasure is the rule.

This is a truly important consideration, which no amount of ingenious sophistry can altogether turn aside. Its importance may be recognised from the reflection, that if the sensitive organism had been quite differently constituted, so that its natural evolution, its very growth and ordinary action, had been painful, and pleasure been merely its accident, as pain now is—we do not see, in such a case, how the Divine wisdom and benevolence could have been vindicated. Imperfection and malevolence would then certainly have appeared the more appropriate inference from nature. Or even had the relation of the two facts, although not exactly inverted, been altered, so that pain asserted itself to be as much a fact in sensitive life as pleasure—to arise as immediately out of its constitution—the theistic inference would have been thereby so obscured as to have become powerless for conviction or consolation. The fact that, according to undeniable design, and equally undeniable reality, pleasure is the normal expression of sensation, while pain is merely its liability, is, therefore, of the greatest significance for our subject, and on no account to be lost sight of.

But, it will be said, could not this liability have been averted? Could not God have so constituted the sensitive

organism that it should never have issued in pain—that its free harmonious action should not only have been pleasure, but that it should never have been interfered with? Might not the sensitive instrument have been so constructed that it should not only send forth, as it does, the music of happiness, but that the discord of pain should never have proceeded from it? Would not the power, wisdom, and goodness of God have been thus unimpeachably conspicuous? Now, of course, it is undeniable that, if God had so willed, there would have been no pain in the world; but we are by no means so sure of the conclusion implied in this. A very different conclusion, indeed, seems quite as likely. For is it not the very same condition on which pain is contingent that yields pleasure in so much abundance? Is it not the very same nervous susceptibility which gives forth, as its normal play, the sense of enjoyment—that gives forth, as its abnormal play, the sense of pain? Is it not the very same medium which overflows with gladness that may be even invaded to madness? Supposing the organism had been made incapable of pain, how do we know that it would have retained its capacity of pleasure? Supposing it had been so constituted as not to have absolutely excluded the force of disease, how do we know that it could have owned the spring or felt the joy of health? We put the question thus, because we really do not know, and cannot know. We may, perhaps, imagine the possibility of a susceptibility to pleasure, without a corresponding susceptibility to pain; but, so far as we can see, they are inseparable. A wholly different constitution, placed in wholly

different circumstances, might have possessed the one without the other. But this is an utterly idle question for us to entertain; for, after all (for aught we can tell), such a constitution, in such circumstances, might not have been nearly so good as the present. We cannot say it would. Respecting a matter altogether beyond the sphere of our knowledge, we have no means of reaching a conclusion. Every such conjecture, therefore, is entirely out of place. Looking at the fact of things, the only conclusion we can form on the subject is, that susceptibility to pleasure and susceptibility to pain are correlative and proportional. The more highly refined and exalted the organism, and the more exquisite its issues of pleasure, the more exquisite also is its liability to suffering. Yet, as we formerly saw, and as is highly significant in the actual arrangements of creation, the higher and more richly susceptible the organisms, the more carefully defended are they. The more life becomes intensified in nobler creations, the more carefully is its freight of happiness secured against spoliation, if, when it is spoiled, there be a more utter and painful waste.

Upon the whole, then, it seems that physical pain, while a mere liability of the nervous tissue, whose regular and healthful action is pleasure, is yet apparently an inherent liability of the same,—so that, without the *contingency* of pain, we could not have had the *fact* of pleasure; and, apart from this fact, we would have been without the inference of the Divine goodness; for this inference only rests on the presence of happiness in the creation as its foundation. It is only within the sphere of sensitive

enjoyment that the light of creative love dawns upon us; and if it be within this sphere also that a slight darkness first tinges our inductive horizon, it is yet surely better to have the light with the faint darkness than no light at all.

We may further advert, even in this lower sphere, to the strange relation of affinity between pleasure and pain. So inlaid is the former in the sensitive organism as its appropriate condition, that while that organism cannot resist the contact of the latter, it yet often turns it into a mean of higher pleasure. The temporary suffering is transmuted into a sweeter joy. There is, in truth, a general character of balance and alternation in the sensitive frame. Its life is a continual fluctuation; and if the nervous chords were never painfully affected, we do not know how they might lose in tone and freshness. Or, if this be saying too much, it is yet undeniable that sensitive enjoyment is dependent upon an interchange of affection more and less pleasurable—a succession of more easy and less easy experiences; and, under this capacity of reaction, even the invading pain, as we have said, becomes the means of higher pleasure; and the Divine wisdom and goodness are beheld asserting themselves by the very presence of apparent disorder and evil.

The fact of death, in the general animal kingdom, will be found still more readily than that of pain to yield a consistent theistic interpretation. As the goodness of God is only manifest in the display of happy sentient existence, it is obvious that this goodness will be more manifest the more it is beheld communicating life and happiness. The more multiplied and diversified sentient being, the more abundant the evi-

dence of Divine beneficence. Every fresh life, every new birth of breathing and beautiful organisation, is a renewed testimony to the Divine fulness and love.

It is clear, then, that if there had been no such thing as death in the animal creation, this enjoyment could only have been imparted within a comparatively very limited extent. Animal fecundity must have been restrained within comparatively infinitesimal bounds, and animal life consequently have been deficient in the copiousness, variety, and beauty of happiness which it now exhibits. There could have been in such a case no succession of races, no giving place of inferior to higher and more complex organisms, and therefore no such extended display of Divine wisdom as geology reveals. Numerous creatures, who have lived their brief day of joy, could never have been. In the absence, then, of the apparent exception to the Divine wisdom and goodness, we could not have had the same abundant manifestations of these attributes, which seems very much tantamount to a satisfactory proof that the apparent is not a real exception. That which seems at first to form an obstacle in the way of the theistic inference, is found to issue in a wider and more extended basis for it. As we look at the mere fact of death by itself, it seems for a moment as if there were a flaw in the all-wise and beneficent arrangements of the world; but, as we look a little more steadily, we see how, in the animal as in the vegetable kingdom, life springs from death; how the extinction of one generation, or it may be race, is the rise of others, with equal and perhaps more exalted powers of enjoyment. Death, in this simply organic view, is so far

from approving itself an irregularity, or in any true sense an evil, that it is the obvious condition of organic growth and progress altogether. It is the simple mode by which life continues and advances through its endless phases, taking to itself from every apparent pause a richer strength, and rising from every apparent fall into finer and nobler forms. The Divine wisdom, therefore, may be said to be illustrated instead of obscured by its contemplation, and the Divine beneficence to shine with a fuller and brighter light in its presence.

If we add to these considerations the fact that throughout the brute creation death is, in whatever form, a destiny towards which it blindly tends, and which, for the most part, overtakes it with a swift decision, which gives but a minimum of pain, we will have still greater reason to rest in such a conclusion. Even in the article of death, the brute does not know that it is dying, or at least has no contemplative realisation of the fact, which is what gives all its bitterness to death in man's special case. The life which has sported itself in joyful hours, or days, or years, expires in the brief pang of a moment. Here, as everywhere, the measure of pain is found to be strictly economised, while the measure of life and its enjoyments is poured forth with a profuse hand.

Similar considerations serve to obviate the special difficulty which has been felt to arise from the system of prey in the animal creation. If that system had not existed, it is plain that an immense restraint comparatively must have been laid on animal fecundity and enjoyment. If some ani-

mals had not been destined to live on others, many animals could never have lived at all. Merely vegetable produce could not have sustained animal life in anything like its present fulness and diversity. A change in this one respect would have implied a change in the whole existing relations of the vegetable and animal kingdoms, which we have no reason to suppose would have been a better arrangement, while even such a change could not have obviated the destruction of certain animals by others. For the very movements of the larger animals carry with them death to insect myriads. The ox crushes them with its feet as it pastures, and in many forms devours them within the folds of the green leaf. While there is something, therefore, in the system of prey, in certain of its manifestations, regarded by themselves, which seems to shock our sense of the Divine goodness, when we enlarge our view we perceive that these manifestations are only to some extent special modes of a general law of destruction, which in other forms we do not feel to be harsh and repellent; and that, even if they repelled us more than they do, they are yet the condition of that extended and overflowing presence of life which we everywhere behold. The question, indeed, essentially comes to be of this kind, whether the display of goodness would have been less affected by the comparatively limited presence of life, than by the special amount of pain involved in the system of prey? The question is one that may be fairly left to the settlement which nature has given of it.

And all this receives confirmation from special features in the system of prey which it is well not to overlook; from

the fact, for example, that the predatory animal kills before it devours, and especially from the fact that it commonly seizes by instinct on the most vital part, where death is most suddenly and easily inflicted.

We may then fairly conclude, upon the whole, that the circumstance of organic extinction does not in any degree affect the inference of the Divine wisdom and goodness. It is rather a means towards their further and grander display. There is, as it were, a partial hiding of the Divine character in the shadow of death thrown upon the picture, but it is only for the purpose of opening up behind the partial shadow a more extended and brighter display of that character, a more abundant and richer manifestation of it.

§ IV.—CHAPTER IV.

SPECIAL EXAMINATION CONTINUED—SORROW.

It is, however, in the sphere of human life that evil appears in its most marked and difficult forms. It is only here, indeed, that evil, in the peculiar and emphatic sense in which we commonly use the term, is found at all. It is here that it assumes at once a malignity which defies palliation, and a darkness which is still profound when we have thrown upon it the clearest light which nature or even revelation supplies.

This mystery of evil in humanity from the first assumes all its special hatefulness and darkness from the element of moral corruption which mingles in it, and which, in all its forms, it more or less indicates. If it were not this moral element, there would remain nothing peculiar, save its dignity, in human evil. It is the presence of a deeper shadow lying within the varied shades which chequer human life, that alone gives to them all their special mournfulness, and constitutes that master-problem before which speculation retires baffled, and the heart stands in awe. It is important now to bring this into view, because, while we

trust to be able to show various considerations tending to mitigate the common ills of our race, and even to transmute them into good, we would yet have it to be seen, from the outset, that these ills—deriving as they do their worst hue from that deeper evil which lies behind—at the same time find in it their highest explanation. The fact of sin, if it intensifies the picture of human suffering, at the same time serves to account for it. The lesser, and, as it were, accessory evils, become intelligible in the greater. While striving to carry the light of special explanation along with us, it is, accordingly, of some consequence to see that, in this darker difficulty of sin, all the lower difficulties finally merge. To it they are easily pushed back. In this grand enigma all other enigmas of human life gather up and concentrate themselves. If the problem, therefore, acquires only a more inexplicable character in the end, it is yet reduced to a single point, from the very intensity of whose mystery a clearer explanation falls upon its lower levels.

Under what is commonly meant by sorrow in the widest sense, we may sum up the different expressions of human evil. How pervading a presence sorrow is, it is needless to say. There is no heart which it has not touched, there is no life which it has not darkened. In one form or another it is all around us, and its shadow traces all earthly joy. Its presence is not only to be measured by its outward manifestation ; it lies deep in the soul of many whose brow may yet be clear. It cuts into many a heart which gives no sign of bleeding. Of a certain great man,* who has written many

* Goethe.

fine things about sorrow, it is said that, when he lost his son, no one could read in his face any sign of peculiar emotion; but it was observed that he "worked harder than ever." In this way he sought to stay the bursting fountain of bereaved feeling; and so free and commanding, and, it may be added withal, so cold a nature, no doubt succeeded in his attempt. Yet there are also those who, though they never any more show it, mourn inwardly with a keenness only the more intense that it lacerates in secret. There are those who bear their sorrow, a secret presence of unrest only the more bitter that it finds no expression, and seeks no sympathy. It lurks behind many a smile, and covers itself over with frequent brightness.

Now it is certainly at first a very perplexing question why it should be so—why human life should be thus largely traced and embittered by sorrow. This life is no doubt also full of joy,—more full of joy, we must hold, after all, than sorrow. And upon this fact of enjoyment, in the emotional as in the lower sensational sphere—a fact so diffused and pervading as to be from its very nature less susceptible of analysis and exhibition than the contrary fact—we based our theistic inference. Yet it must be admitted that we have here, in this widespread reality of sorrow, a peculiar difficulty in the way of that inference.

This difficulty we might to some extent obviate, on the same grounds as those set forth in the previous chapter. It is the same emotional susceptibility which renders us at once capable of joy and of sorrow. The same source of feeling in the breasts of parents, which finds such gratifica-

tion in the health and prosperity of their children, overflows with such bitterness for their suffering or death; the same capacity which makes success, or honour, or fame, so pleasurable, makes also misfortune, contempt, or disgrace so grievous. If we wanted the capacity of sorrow, we do not know that we could have the capacity of joy. But certainly, this subjective contingency of pain and pleasure, of sorrow and joy, does not explain in either case the actual amount of the evil or negative element. We are led, therefore, to seek for some higher means of explanation as to the prevalence of suffering in human life. The following considerations may serve to throw some measure of light upon the subject.

Man comes into the world a being of mixed passions and affections. The infant that smiles so placidly on its mother's breast contains in it, with the capacity of indefinite spiritual improvement, the seeds of selfish development, which would grow, if unhindered, into all inordinate forms of lust and unhappiness. Human life, therefore, needs to be beset with agencies fitted to check the one and to stimulate the other. And of all these agencies, suffering is undoubtedly one of the most effectual, one of the most powerful for the promotion of moral culture. It is true that men may suffer much, and yet be little bettered—nay, that suffering, in its baser and more ordinary forms, may tend to nurture a soul in wickedness rather than in goodness; but it is nevertheless a truth of the most undeniable and manifest character, that sorrow, in all its higher forms, is a Divine discipline of the most precious and signally beneficial kind. It brings the

soul into contact with ennobling influences from a higher region of spiritual life than surrounds it here. It awakens in it more directly than anything else the consciousness of the infinite, and calls forth in it more energetically than anything else that quick sympathy with the lofty and the pure, and that ardent aspiration after the good, which are the most constant and unfailing springs of happiness on earth. The weeping of the night is thus turned into the joy of the morning. The soul that may have lain under the deepest shadow, rises to stronger and more beautiful altitudes of virtue. Heaven has been about it in its sorrow, and it comes forth brighter from its converse with darkness, and better and happier from its dwelling in the "house of mourning." Faith guides it henceforth with a firmer step, and Hope cheers it by a steadier light, and Love sustains it with a more enduring fervour. Patience only grows in the valley of suffering, and humility is only purified by the fire of trial.*

Nor does sorrow only lift the soul into a higher region of spiritual excellence for its own strengthening and improvement, but it arouses as nothing else does its activities for the good of others. It not only opens up heaven to us, but it sheds a new interest upon earth, and a glory falls from under its veil on the lowliest lot of man. All life becomes sacred to it—all men are brethren to its purged

* The sorrow spoken of is, of course, in its highest sense, that spiritual exaltation of passion which is of the character of religion. Sorrow, apart from any element of religion, is rather a bankruptcy of the passion than any true phase of it—what we call despair. Of this kind is that "sorrow of the world that worketh death."

and softened vision. It is the rich fountain that feeds in us the well of sympathy. It is the strong passion that kindles in us the holy rage of philanthropy. Nature assumes a lovelier aspect, and is luminous with a diviner meaning, to the gaze of sorrow. It is—strange as it may be—the mirror in which man sees most deeply into truth and beauty in all their relations; so that whatever may be the perplexity of its presence in human life, regarded from a mere intellectual point of view, it is practically so great and comprehensive an agency of good, operating withal so subtly and silently in numerous hearts, that humanity has cause to bless its presence and be grateful for its work. The man who knows not its consecrating power is a loser in far more respects than he can possibly be a gainer. He may be free from its painful lessons, but he misses therewith the wisdom and the well-being that only comes from such lessons.

> "He that lacks time to mourn, lacks time to mend:
> Eternity mourns that. 'Tis an ill cure
> For life's worst ills to have no time to feel them.
> Where sorrow's held intrusive, and turned out,
> There wisdom will not enter, nor true power,
> Nor aught that dignifies humanity." *

The value of sorrow, as a beneficial element of spiritual discipline in human life, it is interesting to remark, has received very special and emphatic recognition in our modern literature. The comprehensive types of ethical truth which Christianity first revealed would now seem to be passing into freer literary currency, and asserting a more pervading power. The worth and beauty of earnest-

* Taylor's *Philip van Artevelde.*

ness, sympathy, and patience—the scorn of the false, and the love of the honest and brave—the many forms of manly and womanly excellence which only spring in their full vigour from "the divine depths of sorrow"—meet us everywhere in the ideal pictures of the novelist and the impassioned strain of the poet. Looking on life with a nobler or at least more comprehensive spiritual insight than heretofore, literature does homage to the blessed function of sorrow; and while it gathers to itself the strength which comes from it, labours with a rare devotion to remedy all its baser sources, and to stanch its most bleeding wounds.

We are of course aware, in all that we have been saying, that the mere notion of such a disciplinary or remedial function as is exercised by suffering, suggests a ready answer to the course of argument we have rested on it. Why was man, it may be asked, so constituted as to need all this discipline? Is not this the real point with which the theistic argument requires to deal—the fact of man being found so morally imperfect as to need so largely as he does the hard and bitter education of sorrow? This obviously points in the last relation to that deeper aspect of our subject that awaits us; yet a few remarks seem here to deserve attention.

All spiritual life, in its very conception, implies an education or discipline. Virtue only realises its meaning in trial. It is no doubt true that we can conceive a discipline merely from one degree of good to another—that we can conceive spiritual life flourishing in its most exalted forms without any background of evil whereon to reflect its excellence; yet it must be also admitted that in the very fact of trial

there lies the possibility of failure—of a sinking below the good, as well as a rising to higher measures of it. In the simple fact of moral action there lies the contingency of wrong action, and of all that moral imperfection that actually exists in the world.

Nay, it is not to be denied (to take a further view of the subject, which must yet be very cautiously ventured on) that even the realisation of the evil—the possibility of failure become a fact—bears in it something of good of which we cannot otherwise very well conceive. The very presence of moral evil calls forth peculiar phases of virtue—a richer and more various fulness of moral excellence. We are far from saying that this serves in the remotest degree to explain the evil. No view could be further from our whole mode of thought than this, which strikes its root deep in an abyss of pantheism. We are not now dealing with the final explanation of the fact, only pointing out that it is not utterly unassociated with good. Good even seems to spring from it. The virtue which is a victory over evil, a hard-earned triumph against foes that have lain in wait for it all along its path, seems a nobler thing than the virtue which has never been so proved. From the very bitterness of the culture springs the precious ripeness of the fruit. This does not certainly explain the evil, but it is at once significant and cheering to find that its presence thus calls forth a more enduring and exalted good.

§ IV.—CHAPTER V.

SPECIAL EXAMINATION CONTINUED—SOCIAL EVILS.

THE survey of human life, in its social aspects—in its aggregate character of communities and nations—presents perhaps more to perplex the contemplative mind than any other view of it. The disorders which meet us in such a survey are so numerous, and many of them of such appalling magnitude, that even the most devout have been sometimes led to ask themselves whether, after all, human history can be considered as a development of Divine wisdom and goodness. The evils of oppression, of miserable poverty, of social degradation in all its shapes, so cover with their dark shadows the historical picture, that the epical and beneficent lights of it seem often entirely obscured. And even at this better and brighter stage of the world's progress, and in such a land as our own, where the higher social influences may be supposed working as actively at least as anywhere else, how much is there to sadden and bewilder the view! To any man in whom the faculties of heart and soul are full, who has a mind to see, and a bosom to be touched with the miseries around him,

and upon whom has come even some dim sense of the infinite capacities and issues of all human life, it is certainly a most mournful and perplexing contemplation, that, with advancing civilisation, and such vast and ever-strengthening resources of science and art and wealth, there should remain so black and fearful a foil to the brightness,—that by the side of all this glittering increase there should harbour such dreadful sickening masses of human deterioration and suffering.

Sad as are the social evils which thus force themselves upon us, whether in the view of the past or the present, a few considerations will perhaps serve—so far as our subject is concerned—to obviate the difficulties that may be felt to arise from them.

And first of all, we must not overlook the conviction which, shaken as it may be in certain moods, never fails to return to the contemplative mind, that, under whatever appearances to the contrary, the collective life of mankind in history yet asserts itself to be "an immutable moral order, constituted by Divine wisdom."* The assurance "that there is an eternal order in the government of the world, to which all might and power are to become, and do become, subservient; that truth, justice, wisdom, and moderation, are sure to triumph"†—this assurance, which is apt to falter while the gaze dwells on the mere imperfections of the picture, comes back with a clear force on its more intelligent survey. Divine wisdom and goodness are recognised as governing the world, and as drawing forth from all its disorders and mise-

* Bunsen's *Hippolytus and His Age* (Aphorisms), ii. 3. † Ibid., p. 5.

ries, hopeless as they may sometimes seem, mighty and harmonious issues of happiness. This is not a conclusion merely imported from Christian teaching, and held as a matter of faith, however Christianity may have shed illumination on it; but it is really a conclusion, upon the whole, vindicating itself upon the facts of the case, and becoming more clear as these facts develop themselves to the historical student.

But not only does the theistic inference thus assert itself even in the face of the difficulties that beset it; these difficulties are found on examination somewhat to clear away. It is felt especially, and from the very lowest point of view, that the worst of the social evils from which man has suffered in the past, or still suffers, are not in any sense to be regarded as a part of the Divine constitution of the world, but really infringements thereof, taking their rise in the invasion of that constitution by man's impious selfishness. The misrule, and the servile and unhappy bondage of mind and body, of which so many are the victims, are felt to arise, not from the Divine appointment, but from the direct violation and contempt of it. This view, if it does not liberate us from the problem, yet throws it back here also upon that last aspect of it, whose consideration awaits us. The question comes to be one not regarding the consequent evils, fearful as they may be, but regarding the primary evil in which they originate—regarding, in short, the fact or possibility of man's selfishness opposing itself to the Divine order. Here, as elsewhere, this becomes the ultimate and comprehensive difficulty into which the others run up, and in which they find their explanation.

It is further to be remembered, that many of the phenomena of social life, which, in their aggravated form, must be regarded as evils, are merely the negative side of that general condition upon which the whole advance, and even the very existence, of civilisation depend. The inequality of social advantage, and the consequently partial distribution of material and intellectual good, even to the extreme disproportion we observe in such a country as our own, are unquestionably, in their spring, the mere results of that inequality of endowment, without which we cannot conceive human improvement to proceed at all. Not that we would be supposed to imply that any national life is to be considered as furnishing an example of the necessary, or, in other words, divinely constituted relations of poverty and wealth. Far from it. It were, we apprehend, a poor faith that did not cherish some higher solution of the social problem than has yet been anywhere exemplified. The existing extremes of social wretchedness and social grandeur are certainly not the appointments of Divine order, but the disarrangements of human selfishness. And it is only such a faith that could sustain the philanthropist in his labour of earnestness, or his hopes of a higher future of national well-being. Yet that a certain inequality of social condition, directly springing from inequality of personal endowment, is the law of human progress, and therefore the appointment of Divine wisdom, is not to be doubted; and while we contemplate the serious evils that have taken indirectly their rise in this, we are equally bound to regard the general advancement, the vastly increasing social well-being, that, upon the whole, have flowed from

it. Social equality—which, as the presumed security against oppression and poverty, and all the characteristic ills of civilisation, has been the lauded dream of political enthusiasts—is not only no part of the Divine constitution of the world, but we have no reason to suppose that it would fulfil the ends of "political justice" and happiness that have been attributed to it; we have every reason, indeed, to believe the contrary.*

Here, therefore, it will be seen that the question comes to be really one as to the wisdom and goodness shown in the general plan of such a world as ours at all,—a world whose essential character is that of development. For inequality would seem to be the condition of development; while, again, the evils we speak of are obviously contingent upon this inequality. And in this point of view, so far as we are capable in any degree of rising to it, it will perhaps be admitted that progress, with all its attendant evils, is yet a better and nobler thing than anything else we can well imagine.†

* All this bearing of our subject, upon which we touch very incidentally, is discussed with fulness, and at the same time admirable clearness and calmness, in Archbishop Sumner's Treatise, which received one of the prizes when the subject was previously prescribed in 1814 (vol. ii. pp. 40, 118). Here, as throughout, objections which peculiarly deserved attention then, no longer need any special treatment.

† It might no doubt be asked, Could we not have had the advantage of development without the disadvantage? To which we can only reply, that it was no doubt possible that human history might have been a development of good throughout; had man not sinned, we have reason to believe it would have been so; yet, in the mere fact of moral development, evil is contingent, and, consistently with the nature of that development, could not have been absolutely excluded. Here, equally as in the individual, the possibility of disorder lies in the very character of the life to be trained and developed. And here, therefore, again we see, as everywhere in this region, that the question is thrown back upon this ultimate mystery.

And while we are thus, by enlarging our view, enabled to see in many of the phenomena of social evil merely the contingent results of that general plan of progress, by which the world is upon the whole advancing in wisdom and happiness, it is still further to be considered, that beneath the aggregate darkness of some of these phenomena there is often found much individual happiness. True also, we are apt, from familiarity with such phenomena, to underrate the fearful amount of actual suffering which they represent. Yet, upon the whole, the balance lies on the other side. There is such a powerfully elastic spring of happiness in the human heart, that its presence, even in intense forms, is not to be denied under the darkest oppression and the most utter poverty. Even among those who live under systems of the cruelest and most godless injustice, there may be found circulating the free flow of exalted and joyous sentiment. In the miserable cabin of many a poor African there may be heard the voice of melody; and pure affection and simple piety may gladden many an otherwise dark and comfortless home. The soul may be emancipated while the body is enslaved, and sunshine may cheer the heart while ungrateful toil wearies the bones. Happiness, the sweetest and least interrupted on earth, may certainly belong to the lot of righteous poverty; and even in circumstances the least favourable, it is consolatory to reflect that happiness is not bound by the impious devices of tyrannic power—that it can find a nest for itself even where industrial misrule or lawless despotism may have laboured most zealously to extinguish it.

And, finally, the light of a higher explanation is beheld

breaking upon us from the future, as, with the growth of human improvement, the "increasing purpose" of Beneficence becomes more manifestly stamped on all the civil relations of the world, and "a purer order and diviner laws" are even now beginning to bind into a nobler life its multiplied combinations. As the invasions of human selfishness are driven back before the progress of Christian enlightenment, the Divine plan of infinite wisdom and goodness will be seen more visibly revealed in history, and more obviously expressed in society.

§ IV.—CHAPTER VI.

SPECIAL EXAMINATION CONTINUED—SIN.

THE considerations presented in the foregoing chapters serve, we apprehend, somewhat to obviate special difficulties regarding the wisdom and goodness of God. The various forms of evil which meet us as apparently formidable obstacles in the way of the theistic inference, are found, on examination, to be at least by no means so formidable as at first they appear. At the very worst, they do not exhibit themselves as unmixed evils. They bear, every one of them, some compensatory significance of an important kind. On the general platform of animal life, and in reference to the most comprehensive phenomena of evil which there occur, this compensatory character is so prominent, and enters so directly into the intended constitution of things, that it seems greatly to remove the element of difficulty which superficially is felt to exist. Pain, while it shows itself to be contingently related to pleasure in the very nature of the sensitive organism—to be a liability springing out of the very fact of the good—appears reduced to its minimum throughout the lower brute crea-

tion ; while organic extinction is seen to be a mere transition to higher and more abundant modes of life, in the wide and ever-expanding diversity of which the wisdom and goodness of the Deity are ever more truly and conspicuously displayed.

The same compensatory character, whereby a higher good is still developed from the partial evil, is found to mark the difficulties which occur in the sphere of human life, although manifestly it is no longer, in this sphere, so adequate for explanation. Here, while suffering is no less clearly seen to serve purposes of good, there is yet very clearly left a residuum of difficulty unexplained. The beneficent use of sorrow is indeed apparent, and thoroughly satisfactory as to its existence, proceeding on the fact that discipline is needed to purify and exalt human life; but the question at once presses itself, Why this disciplinary necessity? what explanation does it admit of?

We readily admit, therefore, that while, by the light of enlarged and impartial inquiry, we are enabled to see good everywhere in the evil, and so far to obviate the difficulties which arise from the latter regarding the Divine wisdom and goodness, we do not, by such considerations, remove the difficulties. The darkness clears away a little as we gaze steadily into it, and make ourselves familiar with it, but it is still there. The light has penetrated, but not dispersed it. It is somewhat broken up and driven back, but it only concentrates itself more deeply—in an aspect of more intense enigma—on the further point to which it has retreated.

Following this plan, however, of carrying up the different

forms of evil which meet us in human life to their true source, we are enabled to see clearly the final amount of difficulty with which the theistic argument has to deal. If we fail to give an adequate explanation of the lower evils, it is only because they imply a further element of moral evil which arrests us. Bringing fully into view this difficulty, and holding it in all its inexplicable magnitude before us, it serves, in its very intensity, to cast a full meaning on the dependent perplexities. In this comprehending evil of sin, all the lower phenomena of evil in human life find their satisfactory explanation.

This higher view of the subject is one from which our older theistic literature has, for the most part, shrunk. It has aimed to bring out the compensatory significance of all suffering, and to show how largely good is everywhere subserved by evil; but the explanatory meaning which suffering everywhere assumes in the view of sin, has not been clearly apprehended by it. Sin has apparently been regarded as something beyond the sphere of its observation: and, holding this fact out of sight, it is not to be wondered at that an air of unsatisfactoriness should attach to its best endeavours* to resolve those phenomena of suffering of which we have been speaking.

On the other hand, by bringing into view the fact of sin, if the problem in the end be only deepened, it is yet simplified. The mind is left to rest on a single point of darkness, whose apprehension leaves all the different phenomena of human suffering at least fully intelligible. For when we consider

* See PALEY'S *Nat. Theol.*, chap. xxvi. BROWN'S *Lectures*, lect. 94.

the fact of sin, it no longer remains wonderful that there should be suffering. The true marvel would have been, if, with the presence of sin, there had not been suffering. For a moral instinct of the most direct and irresistible character assures us that the latter is everywhere the inevitable consequence of the former—that the two are bound together, and essentially coexistent, in the nature of the case. Because man is a sinner, he is a sufferer. It is sin that smites him with pain, and wounds him with sorrow. It is sin which darkens life for him, and embitters death. When we seize, therefore, this fact of sin, the mystery of suffering disappears within it.

Especially is this the case when we apprehend the fact of sin in clear connection with that complete doctrine of Theism as to the Divine goodness which formerly opened up to us in the course of our argument. In the law of conscience we found that the good interprets itself as the right. The moral good which commands us in conscience is righteousness. The one idea only sustains itself in the other, and finds its complement in it. The attribute of Divine goodness becomes, accordingly, in relation to moral life, also Divine righteousness. The two conceptions are essentially inseparable. If we regard sin, then, in this higher theistic light, we will at once see that suffering is its necessary mark of punishment. Asserting itself in opposition to the law of conscience, it thereby directly opposes itself to the righteous will of God, of which that law is the expression, and so provokes His punishment. Existing only as a rebellious infraction of Divine will, it necessarily calls forth

the Divine wrath. In its very character, wherever it occurs in the universe of God, sin accordingly is, and must be, marked by His displeasure. It must bear the brand of suffering. It must have its doom written on it. And in this point of view, so far is suffering from constituting a valid objection to the Divine goodness, that it is truly a manifestation of that goodness. Rightly viewed, the Divine punishment of sin is merely another side of the Divine goodness. For inasmuch as goodness only completes itself in righteousness, were sin or unrighteousness not visited with punitive suffering, the Divine goodness could not be the reality which conscience demands. It might remain a vague and beautiful dream of the imagination; but a goodness which in any respect came short of righteousness would, in the very nature of the case, prove a vanishing shadow—a mere fiction, on which the heart could never rest. Let the one idea be lost sight of, and the other will altogether fail to legitimatise itself, or keep its ground. A goodness which does not rest on justice, and embrace it, would, in the highest meaning of the attribute, be no goodness—our own moral conscience being judge—and would leave, therefore, no real foundation for that happiness in whose behalf it is sometimes emptied of this essential element. In all this view, therefore, the Divine goodness is seen not only to be consistent with, but to be expressly called forth in human suffering as the punishment of sin.

But when we contemplate sin, in its own essential character, as most truly misery, this becomes still further evident. Any other conception we can form of misery is

poor and trifling in comparison with that which is summed up in the fact of sin itself. The temporary evil of suffering is, therefore, most truly good, when viewed as the chastening of sin, to deliver us from its power. Its bitterness is a direct agency of Divine beneficence, to save us from a darker and more hopeless bitterness. Had sin not thus borne the reprobation of suffering, and man's sinful progress experienced no check from it, the Divine goodness would undoubtedly have been left in far greater obscurity than it is.

But what of sin itself? What theistic explanation does it admit of? Has not our whole previous train of reasoning been merely a fencing with the outer or accessory difficulties of the subject, while the great difficulty lies here? We are certainly far from concealing that in the comprehensive fact of sin is contained the chief mystery with which we have to deal. We have, on the contrary, all along implied this. It has been our aim simply to show, in reference to human life, how all the difficulties attending the theistic inference run up into this point, and here find their ultimate force. And if, at length, in approaching this point, we find that the light of explanation fails us, or, in other words, find that we cannot at all resolve sin in our process of theistic induction, it may at the same time appear that this arises from its very nature, which is such as compels us to cast it out of the theistic argument, and *per se* liberates that argument from its injurious burden, mysterious and irresolvable as it may for ever remain. It may be seen that, while this mystery defies all solution, it separates itself by its character from all direct relation to the

Divine agency. Profound as is the difficulty it involves, it is a difficulty, when rightly understood, not immediately regarding the Divine character (about which its own testimony leaves no doubt), but regarding its human possibility.

Sin, as we have already assumed, is in its essential conception the revolt of the human self against the Divine. Whereas the good consists for us in the harmony of the Divine and the human will, the evil consists essentially in the insurrection of the latter against the former. The soul passes out of the sphere of Divine conformity, and asserts itself in an attitude of opposition to God and to goodness. This is the most radical principle of moral evil. It is this element of rebellious self-will against the Divine law that we specially mean by sin. It expresses itself in many forms, and assumes many characters; but in this element of rebellious self-will they all take their rise. This is the perverted essence which pervades all.

Such being the true character of sin, it must be obvious, in its very definition, that we cannot bring it into inductive relation with the course of our evidence; or, in other words, that we cannot find any argumentative solution of it. For how can we intelligibly relate that to God, whose very essence consists in opposition to Him? How can we explain that which in itself, in its very conception, presents the uttermost contradiction? In order that anything may be capable of explanation, it must exhibit some ground of reason; but here all is unreason. That any creature should revolt against its Creator can only present itself as the most

awful and unfathomable folly. Sin, therefore, baffles all explanation. Every attempt that has been made to throw any light upon it, or to resolve it inductively, has ended, in the very nature of the case, in denying it.* All that we can say or know is, that the possibility of sin lies in the fact of human freedom. Man being made free to choose good or evil, the choice of the latter was possible—but further all is darkness; and if we insist for a moment in carrying our logical explanations up into this region, we only plunge into deeper and more hopeless darkness.

But in this very confession of the utter unintelligibility of sin, is not our argument relieved from its difficulty? We cannot give any theistic explanation of it. But why? Because, in its very essence, it is anti-theistic. It is in God's creation, but it is there as a blot upon it—in direct violation of the Divine order which otherwise prevails. In its nature it wholly separates itself from God, and is, therefore, whatever we may make of it, not entitled to reflect injuriously on the Divine character. A true perception of sin leaves it, indeed, an insoluble difficulty, but is so far from allowing its darkness to rest on the Divine wisdom and goodness, that it is only against the truth of these attributes that its heinousness comes fully into view. It is only its opposition to Divine wisdom and love that makes sin what it is. And to this itself bears witness in its own innermost darkness. In the very act of stamping its atheistic impress upon the soul, it belies its own act; and in its deepest abandonment pro-

* See note at the end of the chapter, where the attempts of this kind most deserving attention are briefly reviewed.

claims the reality of the Divine goodness with which it strives. The rebellious self-will which opposes itself to God, yet trembles before Him. It trembles because of its own unquenchable witness to the truth of those perfections which it practically denies. So long as conscience is not utterly extinguished, there arises from the very heart of depravity this irrepressible testimony. This it is, in fact, which—asserting itself against the most persistent godlessness—gives to that godlessness all its direst unrest and misery. The sense of guilt, in its worst agony, is nothing save the consciousness of hostility to Divine wisdom and goodness.

NOTE.

Various theories have professed to expound what is called the origin of evil. The most comprehensive and impartial account of these theories that we know of is to be found in the second book of Dr Julius Müller's treatise on the Christian doctrine of sin. On a careful examination, one and all of them will be found to explain sin by virtually denying it in its true character. Dr Müller has reckoned them as four, under the several names of the theories of Dualism, of Contrast, of Sense, and of Metaphysical Imperfection. The only two of them that can be said to possess any special interest, or to deserve any special notice, are those of Contrast and of Metaphysical Imperfection. The former derives certain pretensions from its analogy to that compensatory mode of argument which we have pursued in previous chapters. It is, in truth, nothing else than this argument reduced to the palpable contradictoriness that lies in it when pushed to extremity. The latter claims attention from the influential names that have promulgated it, and the manner in which it has been associated with Christian literature. Both, besides, have this special claim upon our notice, that while neither of them can be said any longer to possess vitality as speculative theories, they yet truly live and find utterance in many of our current modes of literary and theological culture.

In this view we present here a summary of Dr Müller's exposition of them, which has in some part elsewhere appeared, but which, in relation to the subject of the foregoing chapter, may be interesting to a certain class of readers. It will certainly serve to set forth more clearly the conclusion of that chapter as to the absolute unintelligibility of the evil, and the consequent futility of all attempts to explain it.

The theory of Contrast may be thus stated: Evil, like darkness or cold, is an indispensable element of alternation in human life. All individual reality is only the product of opposite forces working together. Pure light were in itself perfectly colourless—identical, in fact, with darkness: it is only the blending of the various shades of both which gives us actual light. The plant, were it a single power, would not grow: it is only the co-operation of opposite powers which promotes its development. So in man, individuality —character—is only the product of the opposing ethical moments of good and evil. Perfect purity, without flaw, without struggle, would be a mere empty and useless abstraction. All life and energy only arise from the mutual conflict of the positive and negative. In nature we have attraction and repulsion—positive and negative electricity; in ordinary life, pain and pleasure, rest and activity, health and sickness. Take away any of these relative moments, the other would disappear with it. Take away repulsion, there would be no more attraction. Let pain disappear, so would pleasure. Rest is no more rest if it does not spring from activity; and the joy of health is only known through sickness. Why should it be different in the sphere of morals? Here, too, there must be a polarity. Good can only be in contradistinction to the evil. It is only from their interaction that the moral life derives any character and energy. How utterly devoid of interest—how stale, flat, and unprofitable—were our life, were sin entirely to disappear! Where would be all that now in history or romance gives a charm to it? Where would be the passions that now lend to poetry all its power, and to the arts all their witchery?

The relation of this to our previous compensatory mode of argument will be apparent. Whereas, however, that mode of argument is simply made use of by us to show the good which still attends the evil, and seems even to rise out of it—reduced, as it is here, to a logical explanation of moral evil, it secures its object only by destroying the fact to be explained. So far as we have urged the argument, it amounts to this, that the evil is everywhere contingently

related to the good, and appears in *its mere capacity* to be so connected with it, that we do not know that we could have had the one, and the other been absolutely excluded. But the present theory not only finds good in the evil, but it makes moral evil an absolute condition of moral goodness. In this view it is not, and cannot be any longer evil. It enters no longer as a spring of disorder, but as a necessary integral into the development of human life. In fact, the good in contrast to the evil is no longer good, but rather evil, and the evil good; for it is only the quickening impulse of the former gives the latter vitality and strength. Without this the good were no reality, but a mere slumbering torpid potentiality. It lies in the last logical results of this theory, therefore, to enthrone the evil as the first principle. It does not depend upon the good, but the good, so far as it is possessed of any living power, depends upon it; or, at any rate, the concrete reality in which they unite is something in which the properly distinctive characters of the two conceptions disappear.

But this theory moreover rests on a special misstatement of the fact in question. It is by no means true that the good, as such, needs the reaction of the evil to attain energy and consistency. No doubt there are, as we have seen, forms of good which we can only imagine in contrast to evil,—nay, there would seem to be, as we formerly expressed it, a richer power of good in the end from the very presence of the evil—but this is something wholly different from recognising, according to the present theory, the good to be absolutely dependent upon the evil, and only to be possessed of activity from co-operation with it. Life and activity are, on the contrary, essential elements of the good in itself. As a creaturely product, it is certainly dependent for its development on the coaction of relative forces, both bodily and mental; but its relation to the evil is still only, even when it derives strength from the relation, one of conflict. It is the very warfare with the evil, and repulsion of it, that imparts strength and higher glory to the good. Every corrupting association of the evil with the good is, therefore, still so far evil, and not good.

The second theory to which we have referred is that which traces moral evil to the Metaphysical Imperfection of human nature. This is especially known as the theory of Leibnitz in his *Theodicée*, although it really dates from Augustine, and had even, in our own literature, received an elaborate exposition some years before

the appearance of the Theodicée, in the well-known work of Bishop King. According to this theory, evil is considered to be a mere privation; to be in morals, in short, what cold and darkness are in physics—a pure negation. It is only the perfect or absolute that is positive: all imperfection proceeding from limitation is of a privative or negative character. But God alone is perfect. The creature in his very nature is limited. This limitation shows itself in man, in the presence of error beside truth in his understanding—of pain beside pleasure in his senses. Is it wonderful, then, that in his will this limitation should also manifest itself in the presence of evil beside the good? According to this view, evil takes its rise, not in an efficient cause (*causa efficiens*), but only in a *causa deficiens*. God gives the creature his qualities only in so far as they are real and positive; the deficiency does not spring from His will, but from the nature of the thing. God is willing to bestow every perfection in the fullest possible degree, but the receptivity of the creature in its very conception is limited. This limited receptivity has its ultimate ground in the Divine understanding, the region of eternal truth—the forms or ideas of the possible—the sole thing which God has not made, as He is not the author of His own understanding. In this way Leibnitz conceives that he obviates the reference of the evil to God. Every positive faculty of man is to be traced back to God; but the evil, as a mere privation, cannot be so traced. What is good cometh from the strength of God—what is evil, from the torpor of the creature.*

It has been shown by Dr Müller that this theory admits in some degree of two interpretations. It may be understood as either deriving sin necessarily out of the original imperfection of the creature, or as only placing the possibility of sin in this imperfection. While some of Leibnitz's expressions would seem to favour the latter interpretation, there can yet be little doubt, we think, that it was in the former sense he himself meant it to be understood, as in this sense alone can it be said to have any title to be considered a theory of the origin of evil. It was his whole object "to justify the ways of God to man," and the secret of this justification he undoubtedly believed himself to have found in the conception of evil as necessarily inherent in the limitations of the creature. Evil is a direct and inevitable consequence of these limitations—*une suite des limitations pré-*

* *Theodicée*, part i. § 20-33.

cédentes, qui sont originairement dans sa creature—so that in creating the world at all, God (so to speak) could not help the admixture of evil in it; inasmuch as it could not be absolutely perfect, it could not be free from evil. But the evil is the least that could have been. The world is the "best of all possible worlds!"

This theory of metaphysical imperfection has been among theologians the most favourite mode of explaining the origin of evil. It took its rise in the case of Augustine, there can be no doubt, from the necessity felt by him of opposing to the Dualistic conception of the Manicheans some solution of the great problem in consistency with the Divine unity and perfections. And it has maintained its place in theology, as seeming to furnish, upon the whole, the solution of this problem most reconcilable with these perfections. Among our latest writers on Natural Theology, Dr Chalmers expounds it with zest, and puts it forward as hypothetically valuable in meeting the cavils of scepticism, although manifesting considerable reluctance to accept it as satisfactory. There are perhaps few more signal examples of the perverting influence of theoretic arbitrariness on theological literature than that which is presented by this theory.

A little examination of it will serve to show this. And first of all, the conception which it presents of sin is in direct contradiction to the moral consciousness. Sin is not the *ens privatum* which this theory holds it to be; it is, on the contrary, of an essentially positive character. It bears no analogy to any of the other limitations or imperfections which attach to our nature; these are merely the appropriate accidents or conditions of our finite being. But it is, on the other hand, of the very essence of sin that it reveals itself from the first as an element of disorder and opposition within us. If regarded as inherent in the necessary imperfection of our being, we are then reduced to the strange conclusion, that out of the very limitations which go to constitute the conception of the creature there arises a limitation which contradicts this conception. But further, in making sin, as this theory does, the necessary result of the imperfections of our nature, it thereby, no less than all other theories, really destroys it. For sin being necessary, it is no longer morally blamable. If it spring out of the essential limitations of our being, it is no longer a fault, but only a misfortune. In this point of view, too, this theory wholly fails in its attempts to turn aside the reference of sin to God. Granting that this creaturely limitation is the proximate cause, yet this creaturely limitation is only such as the appoint-

ment of God. There is only a *causa deficiens* in so far as called into existence by the *causa efficiens*. Leibnitz's distinction of understanding and will in the Deity does not really avail to obviate this conclusion, unless the distinction is to be seized in an absolutely dualistic sense.

And if necessary in its origin, sin, according to this theory, must be no less eternal in its duration; inasmuch as the creature can never be absolutely perfect, sin can never wholly disappear. It can still only be a vanishing minimum, as the creature approximates to the perfection of the Creator; and this is an idea which would seem even to have entered into the mind of Leibnitz, in his famous representation of the human spirit as an asymptote of the Divine. Could we conceive the still vanishing limit entirely away, man would be no longer man, but God. It is clear, then, that this theory, pushed to its fair logical results, only escapes Pantheism by making sin eternal. Man only ceases to be a sinner by becoming God. Most singular and instructive coincidence with the latest outrages of German speculation, and the favourite representations of the most seductive school of infidel literature, both in our own country and America! So striking is this coincidence, that in many of the expressions of Emerson, Leibnitz and even sometimes Augustine might be supposed to speak. From quite opposite impulses, but under the same rage for theorising, the modern transcendentalist has reproduced their idea of the evil being simply a deficiency of the good; only he has apprehended, which they did not, this idea in its strict logical consequence—as cutting up by the root the consciousness of guilt, and, in making sin a necessity, annihilating it as a moral fact.

It is this strangely instructive result which enables us to see in the clearest light the fundamental vice of Leibnitz's theory, and, in fact, of all the theories on our subject. This vice consists in the application of purely logical or inductive conceptions to moral truth, while this truth in its very nature transcends the grasp of logic. It makes itself good in the inner spiritual consciousness, but it cannot be inductively seized and accounted for. The attempt so to seize it necessarily terminates in misapprehending it. It is obvious, for example, that it is such a perverting misapprehension which underlies the whole scope of the present theory. For if it does not confound metaphysical with moral defect, it yet makes the one an inevitable consequence of the other. A relation is thus implied which is wholly inapplicable, between mere perfection of being and perfection of moral

life. In the former respect, God alone is or can be perfect; in the latter there may be, so far as we know, any variety of relative perfection. Sinlessness has no connection with mere mass of being, but exists entirely in the harmonious proportion between being and the moral laws under which it exists. And in like manner, sin has, and can have, no connection with mere metaphysical limitation or defect of being, but exists entirely in the discordance between it and its proper moral conditions. The two conceptions of good as mere being, and good as moral harmony, are totally and essentially distinct, and nothing but the most hopeless and irretrievable error can arise from their confusion. In the one case it is substance with which we deal, —more or less; in the other it is will,—right or wrong. No circle of thought can ever unite these conceptions, which are absolutely distinguished. We do not say, indeed, that the metaphysical definitions of being and non-being, affirmative and negative, possession and want, have no relation to the investigation of sin; but only that they are totally misapplied when made to express its real and essential principle. And so long as philosophy or theology remains fast bound in such logical abstractions, neither can have any true apprehension of its character, and in attempting to define it can only mistake it. We must rise into a quite different region, and bring into view that mysterious personality, which at once so directly relates man to the Fountain of all life, and yet contains within it the capacity of furthest alienation from Him, before we can reach any genuine perceptions of sin, and apprehend its essential contents. And when we have done this, we will not fail to apprehend, at the same time, how futile must be all attempts to explain the origin of sin, from the very character of the subject in which it takes its rise. All that we can know is, that the possibility of sin lies in the fact of personality; in other words, in the fact of human freedom. And as this fact is wholly inexplicable, so is equally the sin which has sprung from it. As Coleridge has said, with that profound moral insight which so often marks his scattered observations, and renders them so valuable to the Christian student,—"It is a mystery, that is a fact, which we see but cannot explain; and the doctrine (he means of original sin), a truth which we apprehend, but can neither comprehend nor communicate. And such, by the quality of the subject (namely, a responsible will), it must be, if it be a truth at all." *

* *Aids to Reflection*, vol. i. p. 730. Pickering. 1848.

§ IV.—CHAPTER VII.

CONSIDERATIONS, ETC.—DERIVED FROM "WRITTEN REVELATION."

In the preceding chapters we have carried out our treatment of difficulties regarding the wisdom and goodness of God in so far as we are enabled to do by the light of nature. These difficulties, we have seen, in their most formidable aspect, concentrate in moral evil; which, on the other hand, refuses to be related inductively to the great Source of being, but asserts itself as the mysterious product of the human free-will. In its very nature, sin utterly separates itself from God, while yet bearing in its dark rebellion an unequivocal testimony to the Divine existence and character. Whatever may be its mystery and difficulty, therefore, it seems undoubted that the fact of moral evil is not entitled to affect injuriously the theistic inference.

This conclusion appears to us so far satisfactory. As to the final difficulty of the origin of evil, it has been our express aim to show that it admits in its nature of no solution. It presents an impenetrable mystery; only the hopeless

darkness which here at length meets us, cannot be allowed to rest legitimately on the Divine character. According even to the testimony of sin itself, that character stands out in clear brightness against it.

In case, however, that any doubt should still surround this conclusion, we are finally led by the terms of our subject into the region of special Divine revelation. We do not suppose that it is meant that we should enter into any special proof of the Divine authority of this revelation. All that seems to us to be appropriately implied in the terms of the Essay is, that we should take a glance at this higher region of revelation before we close. Having sought in the lower region of natural inductive inquiry for all the light within our reach, we are invited finally to cast our gaze to that brighter light which professes to shine upon us directly from God Himself. The very strength and clearness of the lustre which the Christian revelation sheds around the Divine character, may at the same time go far, apart from any formal proof, to vindicate its Divine authority.

Taking up, then, our argument at the point at which we left it, we had reached the conclusion that sin, from its very nature, could not only have no productive relation to God, but was directly opposed to Him. At this point, the gospel meets us in the most significant manner. It declares in its very conception God's hatred of sin, and opposition to it. It affirms that it was for the very purpose of destroying sin that He sent His Son Jesus Christ into the world. We are no longer left to infer from a process of reasoning regarding

the Divine character, as revealed in the depths of our own conscience, that God is opposed to sin, but in the mission and death of the Lord Jesus He Himself makes this specially known to us with the most solemn effect. All our Lord did and suffered bore the same meaning of Divine hatred against sin. All expressed with an imperishable force that God is "of purer eyes than to behold evil," and cannot "look on iniquity."

Thus carrying on our argument from the negative point at which we left it, we see with what decisive clearness the gospel interprets the indications of nature, and shows that the burden and injury of sin, however inscrutable, are directly rejected by God. Ascending slowly towards this conclusion from the attentive scrutiny of our moral consciousness, we are met by a direct utterance from God Himself, which places our conclusion beyond all hesitation, and enables us to rest in it with an impregnable security.

But this negative testimony bears us but a little way into the full light which the Gospel sheds upon the Divine character. In this indirect manner it serves to vindicate that character from the application of the objection founded on the existence of moral evil; but in what a positive glory of wisdom and beneficence does it further place it! If its utterance, on the one hand, is that God is righteous, and hateth sin; its utterance, on the other, is that "God is light, and in Him is no darkness at all;" * and, moreover, and emphatically, that "God is love." † "In this was manifested

* 1 John, i. 5. † Ibid., iv. 8.

the love of God towards us, because that God sent His only begotten Son into the world, that we might live through Him. Herein is love ; not that we loved God, but that He loved us, and sent His Son to be the propitiation for our sins." * "For God so loved the world that He gave His only begotten Son, that whosoever believeth in Him might not perish, but have everlasting life." †

Such is the full lustre of meaning which the revelation of the Lord Jesus sheds upon the dim hints of nature. If, after all their study of the latter, there be minds that return uncertain whether the Power that speaks to them in its varied changes, and is present in its varied aspects, be a beneficent Power, here, as it were, the heavens open, and a voice is heard whose utterance is a gospel of love. Whatever doubts may remain to the merely natural view,—whatever difficulties may impede the promptings of the heart,—are for ever dissipated by the clear and strong truth not only announced in words, but expressed in action,—not only declared by the mouth of an apostle, but exemplified by the mission and death of His own Son,—that God is love. "Scarcely for a righteous man will one die : yet peradventure for a good man some would even dare to die. But God commendeth His love toward us, in that, while we were yet sinners, Christ died for us." ‡

Sin, we see, so far from being entitled to darken to us in any degree the character of God, is the very fact which serves to bring out, in its greatest fulness and depth of brightness,

* 1 John, iv. 8, 9, 10. † John, iii. 16. ‡ Romans, v. 7, 8.

the beneficence of that character. It is against this dark shadow that its lustre comes forth with the most glorious clearness. Had there been no sin, it is true that its difficulty would not have perplexed us. Yet it is to the very presence of sin we owe the surpassing manifestation of Divine goodness in the gospel. We see the Divine love here as we could not otherwise have seen it, stronger than sin or death, triumphing over the very enmity assailing it, and out of the very darkest difficulty in the moral universe bringing forth the most significant tribute to the wisdom and beneficence of the Divine government.

It is especially in the perfect harmony of Divine righteousness and love, as displayed in the gospel,—in the spectacle which it exhibits of God hating sin, and yet loving the sinner,—that its testimony is so emphatic, and that we are enabled to dwell with such satisfaction on that testimony. We have already seen how inalienably intertwined are the attributes of goodness and righteousness—how the former only sustains itself in the latter, and, apart from it, would wholly fail to preserve its own peculiar life and virtue; but while our highest conception of those attributes shows them indeed to be one and indivisible, yet it must be admitted that they present themselves in the mirror of actual life frequently broken and dissevered. We see the traces of each, on the one hand, in happiness—on the other, in punishment; but we fail often to see their harmony; we are unable to join in a living synthesis the scattered intimations of nature; we cannot bring into consistency its disjointed speech. But

in the revelation of the Lord Jesus, the fragmentary hints of nature receive a consistent and satisfactory interpretation. Goodness and righteousness are beheld in the sacrifice of the Cross as nowhere else. Here "mercy and truth have met together; righteousness and peace have kissed each other." * Here the strength of love and "the beauty of holiness" are mingled in a centre of Divine perfection, upon which the human heart can repose for ever with the firmest faith and liveliest hope.

* Psalm lxxxv. 10.

§ IV.—CHAPTER VIII.

THE DIVINE MAN—INCARNATE WISDOM AND LOVE.

With the last chapter the argument, as apprehended by us, might appropriately have closed; it seems so superfluous to argue on the foundation of the gospel revelation for the wisdom and goodness of God—that revelation being only conceivable as in the highest degree an expression of both. Yet it may be well simply to glance at some of the special features of Divine excellence thus declared to us. The teaching and character of the Lord Jesus, and the adaptation of the gospel to the spiritual elevation and consolation of the human race, seem to present, in this view, the most prominent points for notice.

It is not now denied by any, even by those who repudiate the Divine authority of Christianity, that we have in the teaching and character of Christ a rare exhibition of wisdom and goodness. It is acknowledged that He who, eighteen hundred years ago, arose a Prophet among a feeble and distracted people, sunk in social and religious debasement, taught a purer and more exalted morality, and lived a life

of more beautiful beneficence, than the history of the world elsewhere presents. While such a phenomenon, in all the circumstances, must appear somewhat inexplicable to those who do not recognise in it anything specially Divine, to the Christian it appears clearly intelligible and significant. He recognises in the man Christ Jesus the incarnation of Divine wisdom and love. He beholds in him the Word made flesh, who "dwelt among us, and we beheld his glory, the glory as of the only begotten of the Father, full of grace and truth."

When we consider the special point in our argument at which we have arrived, we recognise the direct bearing upon it of this manifestation of Divine wisdom in Christ. With order everywhere pervading the physical world—with nature's harmonies all around—there reigned confusion alone in the life of man. There were in him the promptings of a noble life, which at the best remained unsatisfied, and which too frequently were soon utterly crushed under the dominion of his lower propensities and tendencies. There was government everywhere, but here misrule. Morality seemed rather a varying fiction than a sovereign reality. Giving all honour to the aspiring aims of heathen wisdom, it will not be maintained that any ancient moralist succeeded in discovering a perfect polity for this sphere of misrule. In the Porch and in the Academy there had, no doubt, been taught some pure and elevated lessons, and certain hints of a Divine morality had there been reached, which, as we read them now, seem anticipations of a loftier truth; but in none of the classic schools do we find a moral doctrine at once adequate and consistent.

This is only to be found in the revelation of Jesus Christ. It is only in His character that we perceive a perfect example of moral order, and in His doctrine that we acknowledge a perfect rule of moral polity. He alone fully understood what was in man, and what he needed to raise him above the mere earthly life so natural to him, into the nobler spiritual life of truth and duty. Stoicism on the one hand, and Platonism on the other, and, later than either, Eclecticism, as represented by the devout and meditative Plutarch, had discerned, with sufficiently clear vision, certain aspects of man's spiritual being; but they altogether failed in that comprehensive conception of it which is expressed in the teaching of Christ. They failed to seize the twofold character of moral greatness and yet natural degradation which man everywhere presents, and which is at once so clearly mirrored and so comprehensively addressed in Christianity. This profound moral insight and completely adequate power of moral instruction are nowhere else exhibited. Seeing as man never saw into the secrets of the human heart, the Lord Jesus "spake as never man spake." His simple utterances breathed a wisdom of which the sagacity of Socrates and the genius of Plato had only caught far-off and imperfect glimpses. He taught man, as neither of them had done, to know himself; He touched with a master hand the secrets of his moral being, revealing their discord, and providing the key to their higher and purer harmony. He brought back, in short, into the sphere of moral misrule, moral order; so that the Theist beholds in Him a perfect expression of Divine wisdom. The difficulties which may result from the broken

and defaced manifestations of this wisdom in the general picture of humanity have here no place; for here is the representation, at once in life and in doctrine, of moral perfection. In the man Jesus Christ all the disorders of humanity disappear, and the Divine and human are seen in complete and most beautiful union. Here we have the "possibility of the human race made real;" and in the lustre of this perfect revelation of moral excellence the Divine wisdom shines forth with conspicuous fulness. Nay, here to the christian Theist is the Divine wisdom, "its express image and the brightness of its glory."

And here is certainly not less conspicuous the revelation of the Divine goodness. The life and the death of Christ presents, in truth, the most exalted picture of love that we can conceive. The more we contemplate them, the more does the impression of Divine beneficence rise upon us. He went about continually doing good. He dwelt among men as a brother, sharing their joys, and alleviating with an inexhaustible fulness of compassion their sorrows. He lived only to communicate happiness, and to shed around Him blessing. His ear was ever open to the cry of the wretched, and His hand ever ready to help the helpless. No aspect of human suffering repelled His sympathy—no magnitude of moral baseness checked the flow of His pity. He healed the broken-hearted, and set at liberty the bruised spirit. He made the blind to see, the lame to walk, the deaf to hear: the sick man heard His voice, and his sickness was cured; the dead heard it, and rose to life again. The spirit of beneficence animated Him with so Divine a strength that

it triumphed over every obstacle of hatred and persecution which surrounded Him, and flowed forth in currents of kindness towards His most obstinate and bitter enemies. His love sought and accepted no reward save its own exalted exercise. Persecution could not prevent it—indignity could not repel it—contumely could not ruffle it—death could not quench it. What a depth of Divine compassion breathes in His lament, "O Jerusalem, Jerusalem, how often would I have gathered thy children together as a hen gathereth her chickens under her wings, but ye would not!" What a fervour of infinite mercy is expressed in His prayer, "Father, forgive them—they know not what they do."

The whole life of the Saviour is truly a life of love. We cannot regard any feature of it that does not bear the impress of beneficent devotion; and as we evermore meditate on its Divine beauty, we still see some finer traits of tenderness in it, and a more ennobling stamp of grace.

But it is in the sufferings and death of Christ that the picture of Divine love appears most marvellous and transcendent. Here we behold Him wrestling not only with others' misery and overcoming it, but moreover with the dark burden of His own inexplicable agony, and triumphing under all. As we contemplate the lonely and shadowed figure of Gethsemane's garden, bowed beneath a load of suffering which tongue shall never tell, and as we raise our eyes to the bleeding victim on the cross, we feel that there is a light of inexpressible love shining on us from amid all that darkness, as it burns with a radiant glow in the bosom of the sufferer. The presence of a love stronger than death alone sustains under all that mysterious passion.

There is here, our hearts tell us, a love which "passeth knowledge." There have, indeed, been others who have loved unto death—who have counted not their own lives dear, for some noble principle or glorious cause—yet there is something in the love of Christ which at once sets it above the loftiest example, or even the loftiest ideal of merely human affection. It is a love solitary in its depth and grandeur, reaching far beyond our conception in the height to which it rises above moral sympathy, and triumphs over moral enmity. Our minds cannot understand, but our hearts acknowledge a love which fed upon the very neglect, and took strength from the very contempt, which it encountered; a love which unworthiness only quickened, and hostility only fanned—which only glowed with the brighter and more ardent lustre the more it was crushed and bruised—which, from the bloody sweat of Gethsemane's garden, and the darker agonies of Calvary's cross, only gathered fresh vigour and mastery, till it brought forth battle unto victory, and, ascending to that eternal Bosom whence it emanated, "led captivity captive," and "gave gifts to men."

It is surely impossible to contemplate such a love without feeling that the great heart of God whence it came is love; and whatever difficulties may beset the burdened human heart, there is here a presence of love unstained, to which it can ever joyfully turn. There is here a radiance of beneficence which shines only the more intense from the dark background of sin and sorrow which reflects it. There issues here, from the very shadowing of the Divine character, a richer brightness, and from the hiding of its strength only a more glorious fulness.

§ IV.—CHAPTER IX.

THE GOSPEL A DIVINE POWER OF MORAL ELEVATION AND CONSOLATION.

How directly the Gospel manifests the wisdom and goodness of God has been already apparent. It is throughout expressly and most impressively a revelation of both. It is not merely, however, on its own profession, as it were, but moreover in its practical effects, that we are enabled to appeal to it so confidently in this respect. It not merely tells us that God is love, but it exhibits the fact in its widely beneficent influence.

It is, indeed, impossible to conceive how the Divine wisdom and goodness could have been demonstrated, in the special circumstances which tend to obscure them, more effectually than by such a discovery as the gospel. The great difficulty, we have seen, upon which inquiry can throw no light—before which the highest efforts of human wisdom are powerless—is the existence of moral evil. In such a conjuncture the gospel meets us, not only telling us of Divine wisdom and goodness, but proving itself to be the

revelation of both in its effectual dealing with sin. It lays hold of this fact as no philosophy has ever done, revealing at once its true character and the means of deliverance from it. It presents, for the first time, the full reality of the evil, and the full power of redemption from it.

This redemptive power of the gospel presents a twofold aspect of pardon and of sanctification. Human life, in its deep disorder, needed not only a new power of virtue, but a free gift of reconciliation. Before the soul can rise in holy love to God, the curse of estrangement from Him must be removed, and this is only accomplished by the sacrifice of the Cross. The living and thankful surrender of the human to the Divine will (whereby sin is evermore subdued, and virtue evermore advanced), only rests on the great fact of Christ's propitiatory sacrifice. It is this which alone renders Christian virtue possible, and gives it all its meaning. It was such a sacrifice as this for which all heathenism cried out, but which all human effort could not make. It was the want of such a sacrifice that left heathenism so powerless. The human heart can only rest on the eternal foundation of an accomplished atonement, whereby God is beheld "reconciling the world unto Himself," and "not imputing unto man his trespasses." Here alone it finds a power of Divine peace and restoration. The blessing of pardon comes to it in Jesus Christ with an unspeakable force of healing. Its wounds are medicated, its terrors allayed, its burden of transgression removed; and, rejoicing in the grace of the Divine presence, it catches the sunlight of Divine purity as it falls on it in clear effulgence.

The gift of reconciliation and the power of moral renova-

tion are inseparably conjoined in the gospel. It meets man's necessity of mediation with an offended God in order that it may destroy within him the dominion of sin, and reconstitute and advance the kingdom of moral order. Heathenism could do neither. It could neither abate the terrors of guilt, nor give strength in the struggle with evil. But the gospel, by one and the same power, accomplishes both. The act of grace only completes itself in the work of holiness, which inseparably takes its rise in the former, and grows therefrom, as the fair tree from its happy springing in the prepared soil. The seeds of a new moral wellbeing are already quickened in the first contact of the soul with the Divine favour, and ready to develop into all forms of moral loveliness. All springs from, and all depends upon, the Divine power revealed by the gospel. Such a power alone enables man successfully to resist temptation and overcome evil. It alone secures him the mastery over all that is base and disorderly within him. It alone strengthens him for daily duty, and when the enticements of sin prove strongest, and the sense of responsibility sleeps, guards him from the snare of earthly passion, and guides him in the way of heavenly aspiration. Other agencies may so far help to improve his social condition, and even to refine and elevate his moral affections; but they cannot any of them, as this does, touch with renewing power the secret springs of his being, and advance him into a higher sphere of spiritual purity. They cannot any of them, as this does, raise him above the world of sense, and bring him near to the God of holiness. "For whatsoever is born of God over-

cometh the world; and this is the victory that overcometh the world, even our faith."

Further, the gospel is an effectual source of consolation to man. In a previous chapter we have spoken of the beneficent use of sorrow, and of the virtuous strength and beauty which its presence often achieves in human life. It now becomes us to observe that the Divine element which is thus in sorrow, only rises to its genuine measure and reality in the gospel. Here alone does it become truly tempered into patience, and deepened into experience, and exalted into hope. Here alone does earthly grief become transmuted into heavenly fervour, and tears change into rapture. Here only does the sorrowing soul rise into spiritual strength, and a rare and self-denying devotion, where the light of Heaven illuminates its darkness; and in the brightness thus reflected from a higher sphere, "the sufferings of this present time are felt not worthy to be compared with the glory to be revealed."

This consoling revelation of futurity is among the most divinely beneficent features of the gospel. Previously, there may have been a dim sense of man's immortality, and of the preparatory character of this life in relation to a higher. There were some, we know, who could write with pathetic beauty of the nobler life upon which the soul would enter beyond the grave; but the clear reality of a future life was alone disclosed in the revelation of the Lord Jesus. He alone "abolished death, and brought life and immortality to light through the gospel." It is only through His blessed teaching that the faith of immortality has become the living

possession of the human mind and heart. He alone has shed an eternal brightness around the darkness of the present, and made all who believe in Him to feel with an unquenchable conviction that they shall never die. "I am the Resurrection and the Life: he that believeth in me, though he were dead, yet shall he live; and whosoever liveth and believeth in me shall never die."

In what a light of Divine meaning does this revelation of immortality set the brief period of earthly life! What a source of consoling strength is it to the weary human heart in its struggles with sin and sorrow! It comes as a beam piercing the darkness from a higher region of wisdom and love, of truth and justice, touching what were otherwise dim and strange with a radiance of heavenly significance, and the "otherwise unmeaning ciphers of time changing to orders of untold value." It is this faith of eternal life which now in so many homes lightens privation, and in so many hearts keeps off despair; which brings peace to the troubled, and resignation to the mourner, and takes even the gloom of fear from the night of death, as it opens up the heaven beyond.

The meaning which the gospel has thus shed on life and death and futurity, giving man to see their true relation, serves, perhaps more than anything else, to reconcile the difficulties of time, and "to justify the ways of God to man." For it opens up a boundless prospect of being, in the light of which the perplexities of this earthly scene, if they do not disappear, yet become significant of divine results

of the most exalted and beneficent character. Whatever there may be here that passes his comprehension, or even sometimes wearies his heart, the Christian, carrying as he does the peace of God within him, while the glory of immortality shines before him, is enabled to thank God and take courage.

§ IV.—CHAPTER X.

LIMITED RECEPTION OF THE GOSPEL—MILLENNIAL PROSPECT.

THERE is an obvious objection, we are well aware, that may be taken to the foregoing representation. If the gospel be such a power of moral elevation and consolation to man—if it can so effectually restore the ruin wrought within him by sin, and thus manifests practically that perfect wisdom and goodness of which it speaks—why, it may be asked, has its influence hitherto been so limited? Why does it prevail within so narrow a compass, and, even where it does prevail, why is its beneficent power so obstructed and inadequate? A further difficulty would seem to emerge upon us from the very heart of the evangelical revelation of Divine wisdom and mercy.

That this, however, is only a new form of the old difficulty of sin—of the fact of moral evil at all—is evident on a little reflection. For the undoubted reason why the gospel is, at this day, so slightly influential, is, that it is opposed by man's unbelief and selfishness. Men will not come unto Christ that they may have life. That sin which Christ lived and died to destroy, which His Spirit in the church everywhere is now working to destroy, opposes itself with

hardened hostility to the truth, and where it cannot altogether oppose, degrades and corrupts it.

But could not God overcome this hostility? Is it not the special representation of the gospel that it is only everywhere overcome by His direct agency? And why is not that agency so powerfully and universally exerted, as to bring all under its benign and happy sway? In such depths of dark and almost irreverent questioning we lose our footing, and are perhaps better silent in hopeful trust than loud in curious reply. Having acknowledged to the full extent the awful mystery of sin, we might rest our answer on this mystery. Wholly inscrutable, there is nothing about it more inscrutable than its continued power of resistance to the gospel—than its opposition to the truth bearing upon it at every point, and summoning it to surrender. A few words of explanation, however, suggest themselves.

It is no doubt true that it is only through special Divine agency that the gospel everywhere makes progress, and that it is possible for us to conceive such a forth-putting of this agency as might speedily bring the whole world under its sway; yet it is no less, and in the very nature of the case, true, that this agency everywhere only works in co-operation with the free agency of man. It is a persuasive power, eliciting and strengthening man's spirit, but in no case forcibly overbearing it even for its most holy purposes. "The whole course of history, as well as the express teaching of revelation, prove that God has ever dealt with man, not by the strength of an irresistible power crushing all that is contrary to it, but by the moral strength of those Divine influences by which He seeks to draw every inferior will into

true harmony with His own perfect will. And no doubt this is so, because, consistently with the blessed perfection of God, it could not be otherwise; because He is most glorified in being served by a world of created beings, who are endued with the mysterious power of willing good or evil, and who, through His grace and goodness, have been each one brought into true harmony with Him."* It is not difficult to see, indeed, that the idea of a forcible and compulsory advance of the gospel is not for a moment tenable even as a supposition. For in the very statement of this idea there is already implied the annihilation of the moral quality in man, which alone constitutes the gospel so great a blessing to him, or even makes him possibly a subject of it. Unless man were truly possessed of a will, the gospel would lose all meaning, as man would lose all distinction from the objects of nature around him. In such a case, it has been well said, "There could be really no true living being in the world except God. For to have a will is in truth to live. What are all things without this but mere machines, which must do the order of the one Will which acts through them? What are they but mere shadowy figures of being cast forth from the one Being? If we do not believe that there are separate wills, with this awful power of resisting the one Will, we must either make the perfectly good God the direct cause of evil, or we must admit a second first cause from whom that evil springs." †

Here, therefore, we come back to the final mystery of creation, the fact of human freedom. In this fact is contained at once man's glory and the possibility of his fearful revolt

* Sermons by the Bishop of Oxford, p. 95: 1849. † Ibid., pp. 95, 96.

and shame. It is this alone which at once makes him a subject of Divine grace, and enables him to oppose that grace. Forcibly to destroy the capability of opposition, would be to destroy the very character of his being, and to leave him incapable of good any more than of evil. It is the awful peril of freedom, that while man may rise into union with God, and become a partaker of the Divine nature, he may no less harden himself against God, and fall away from Him into an ever deeper revolt and abandonment of selfishness.

While, therefore, it is truly saddening and perplexing that the benign influence of the gospel has hitherto been confined within such narrow limits, it must be kept in view that this restraint of the gospel springs from man's sinful opposition, and not from any deficiency of wisdom or love in the Divine will. This, we apprehend, will not be denied by any Theist. Whatever be the more special views entertained in connection with this point, every Christian Theologian must admit that the perfection of the Divine character is not implicated in the restrained influence of the gospel. And this is all that is sufficient for our purpose to hold. Here, as hitherto, the mystery lies before us, impenetrably shrouded in its very nature, but reflecting its darkness directly, not on the Divine character, but on the mysterious fact of human freedom.

Let us observe, at the same time, before passing finally from the subject, that there is disclosed to us in the future the prospect of a universal reign of holiness. The kingdom of Divine order, we are assured, shall yet prevail throughout the whole moral, as now throughout the whole physical world. To this gloriously beneficent end, human progress is now, amid

whatever perplexities, everywhere tending. There may be much to cloud this prospect; there may even seem, in certain aspects of social life, and of literary and speculative culture in our day, to be rather a recession than an advance of the "gospel of the kingdom." Yet it is amid such very crises that Christianity is found pre-eminently to approve itself the power of God and the wisdom of God for the world's salvation. It puts forth its greatest strength in seasons of the utmost spiritual darkness. When there seems to be only the disturbance of conflicting opinions, there is silently preparing beneath the embryotic confusion a fresh life, destined to rise into nobler and fairer forms of wisdom and beneficence than any that have gone before. And this will certainly be the issue of present as of former conflicts. The Truth of God, purified by the very assaults which seem to threaten it, will go forth with a new strength, "conquering and to conquer."

And this it will continue to do, till its purifying spirit penetrate every relation, and beautify every aspect of human life, till it stamp its bright and gladdening impress on every feature alike of individual and social culture, and throughout the moral universe there reign at once the most perfect order and the purest love. As we believe in God, we believe in the advent of this better time, "when all the kingdoms of the earth shall become the kingdom of our Lord and His Christ;" when unhappiness shall be no more, because sin shall be no more, and, amid the activities of unmingled beneficence, the world shall forget its past conflicts, and rejoice in an everlasting peace.

CONCLUSION.

CONCLUSION.

It now only remains to conclude our subject, by deducing "from the whole the inferences most necessary for, and useful to, mankind." It appears to us that we will best do this by briefly pointing out the essential connection of Theism both with a true worship and a true morality. There are no inferences which can possibly be more necessary and useful than these, and both seem to spring directly out of the whole course of our thought and reasoning in the present Essay.

Theism, in its full and consistent interpretation, as set forth in these pages, is the doctrine of one almighty, wise, and loving Will. Personality is the central and most essential element of the doctrine. It is only this fact, expressed in our deepest consciousness, that contains for us at once the beginning and the completion of the theistic argument. Around this the whole doctrine gathers in its manifold significance and interest. From the same fact springs all its distinctive character of difficulty. For the final view unfolded by it is that of one creative Will in relation to created wills, which, while proclaiming their immediate dependence upon the former—"from whom, and by whom,

and through whom, are all things"—yet really possess a life of their own, which may oppose itself to the supreme Source of life. In this antinomy Theism finds at once all its meaning and all its mystery. Herein is the one comprehending problem of creation; and yet herein, as it has been the whole aim of our argument to show, is the only key to an explanation of creation, which does not contradict equally the demands of reason and the promptings of conscience.

In this doctrine of a personal God, to whom man holds a free personal relation, there is, we now assert, the only basis for a real and intelligent worship. A divine Being, in whom man lives, and yet from whose life he is, in a true sense, separate, is, and can be, alone an object of pious interest and devotion. Only towards such a Being can there be any impulse of solemn conviction—of reverent feeling. Let the fundamental theistic conception of *will* disappear, and there is no more any living Spirit to receive, or any living spirits to render worship. Substitute for this conception either the materialistic notion of law, or the pantheistic dream of a vast nature-life, and piety becomes a nonentity. For where there is no self-sacrifice, there can be no spiritual offering. There may be organic unity, but there cannot be moral harmony. In seeking to preserve the idea of life in contrast to what it calls "mechanical conceptions" of the Deity, our modern unbelief really empties life of all its noblest essence. It finds its highest expression in mere nature-growth, whereas this growth is only the dim shadow and type of the true life of the soul. It is only, as it were, the rippling play mirroring afar off the true depths of life, self-

centred in God and in man, made in God's image. This element of self, as something wholly distinct and peculiar in creation, alone enables us to reach the genuine meaning of life; and in the interchange between the finite and the Infinite self, the free happy offering up of the one into the all-embracing bosom of the other, we have alone the realisation of worship.

There may, indeed, be much beautiful talk of the worship of Nature, of the homage rendered by the whole round of impersonal existence as it fulfils with a grand uniformity the behests of its divine Author; but the face of nature, we know, as it thus fulfils its course, is turned to God with no smile of intelligent recognition, or of holy meaning. There is no free conscious response in its ever-circulating movements to the great Being from whom cometh all its change and beauty. It is the very glory of man, on the other hand, that in all he does he knows and wills what he is doing. And it is only in this element of intelligent and spontaneous action, of living and hearty surrender, that worship becomes a reality. It is only in the conception of a finite will yielding itself in free and loving obedience to the infinite Will, that piety finds its essential meaning. A theistic faith, therefore, alone recognises the condition of true worship. Pantheism in its very conception destroys it, and leaves man, whatever may be its pretensions, with no higher life than that of nature. Whether materialistic or ideal, it equally takes away from man any reality of existence distinct from the general existence of the universe. He is merely, in his whole being, a phase of the

world-life—its highest point of development in the one case, its self-creating centre in the other. In either case there is and can be nothing higher than himself. The worship of humanity is, therefore, not only logically but avowedly the only possible worship to the Pantheist,—positive or speculative.

M. Comte expressly propounds such a worship as the appropriate terminus of Positivism. Humanity, as the collective life of human beings, is in his system the *être suprême*—the only one we can know, therefore the only one we can worship.* Hegelianism, in the later representations to which it has been consistently reduced by the "Young Germany" school, bears the same import, and utters the same language. We have, therefore, in these systems, something avowed as the only possible worship, which in its very conception contradicts the essential meaning of worship. Instead of self-prostration, we have self-exaltation — instead of self-sacrifice, self-idolatry. Worship becomes a phantasy, or, still worse, a profanity.

In the more vulgar forms of materialistic unbelief all reality of worship is still more expressly destroyed. Secularism is the most recent form in which such unbelief has put itself forward in this country; and its most positive and distinguishing feature, it is instructive to notice, is the abnegation of all worship. Man, it is declared, has nothing to do with any life beyond the present visible one which is before him daily. Any hopes or fears for the future do not concern him. Every possible basis of religion is thus

* COMTE'S *Philosophy of the Sciences*, pp. 341, 342. By G. H. LEWES.

uprooted. Impiety, in such a system, becomes a creed, and animalism its constant and infallible tendency.

It will be found, indeed, no less clear that morality only finds a valid basis in a theistic doctrine. It is only in such a personal relation between man and God as Theism implies that responsibility emerges, and the very conception of duty arises. Supposing man to have not merely the ground of his being in Deity, but to be actually, as Pantheism teaches, a part of Deity, so that the natural flow of his life is merely a phase or transitional expression of the All-life, it is plain that, in such a view, the very possibility of right and wrong vanishes. If man, in all the modes of his being, be nothing else than an expression of the divine Life which lives through all, there cannot be for him any morality. One species of action must be as good to him, because as divine to him, as another. And this is a conclusion from which modern Pantheism has not shrunk. In the figured speech of one, all whose writings are more or less pantheistic sermons, we are told "that the Divine effort is never relaxed; the carrion in the sun will convert itself into grass and flowers; and man, though in brothels or jails, or on gibbets, is on his way to all that is true and good."* We have here a genuine expression of Pantheism, which, notwithstanding its lofty prate of spiritualism, is still always, in the necessity of the case, falling back into the slough of sensualism, to which there is nothing higher than mere nature-life. Man is to it necessarily nothing else than "nature's noblest production." He is a more complex and beautiful

* EMERSON'S *Representative Men*, p. 68.

outgrowth than the grass and the flowers, but this is all. There is no further spring of being in him than in them, and morality is therefore in its idea a mere figment. He is subject to no higher law than that by which nature works. And there is nothing, therefore, that can be false or wrong in his life, nor any more, indeed anything, that can be right. Such terms can have no meaning in such a system. Truth can only be a dream to it, and love an accident, finely as it may discourse of the imperishableness of both.*

It is not to be denied, indeed, that Pantheism is often pure and lofty in its moral language. In minds of exalted bias and refined culture the mere life of nature is conceived of as something noble and elevating; and the writer from whom we have already quoted, betrays sufficiently in all his works his sense of such a life, in which the higher tendencies of humanity are supposed to receive exercise and satisfaction. But, lofty as may be the moral tone in which Pantheism sometimes speaks, it bears in its bosom no moral strength or vitality, and cannot do so. It may tell man to be a hero, but it has no voice of encouragement, of warning, or of help to him. It may bid him live purely as reason dictates; but man, in his common life, is not governed by the clearness of his intellect, but by the rectitude of his affections and will. Pantheistic intellectualism has accordingly shown itself to be the coldest and least potent creed that has ever sought to sway man. Some minds there may always be, as in the old Roman world, that can find in it a degree of moral nurture, but to the common mind

* EMERSON'S *Representative Men*, p. 69.

and heart it is destitute of all moral meaning and power; nay, to them its sternest stoicism interprets itself by clear logical consequence as moral indifferentism, which readily passes over into any species of immorality, and theoretically legitimatises it. The only genuine moral elements of personality and conscience find no place in it, and in the denial of these we have in the end the sure destruction of all moral life and happiness.

It is only a doctrine which preserves these elements in their full integrity that furnishes a consistent basis for man's religious and moral culture. As spiritual life only takes its rise in them, so it can only flourish where they are clearly acknowledged. The more deeply our whole being is studied, the more, we feel assured, will freedom and conscience, and, in a word, reason, as forming the comprehensive spiritual element in man, be acknowledged as realities,—and Theism hence be found the ennobling complement of all human study, no less than the direct expression of Divine Revelation.

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